

Programmable Automation Controllers (ADAM-5000) & Software

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DATA

Programmable Automation Controllers

What Are Programmable Automation Controllers (PAC's)?

The programmable logic controller (PLC), was introduced in the 1960's, and has been proven as a reliable and rugged automation controller for harsh industrial environments. Surveys by the ARC and VDC show that more than 70% of PLC applications require less than 128 points of digital I/O. About 80% of applications can be finished by 20 ladder-logic instructions. These average requirements have resulted in the recent growth of low-cost, tiny PLC's with digital I/O that uses ladder logic.

Although 80% of applications can be satisfied by low-cost simple controllers, the other 20% are more complex, and traditional PLC's cannot fully satisfy them. These higher level applications usually require complex control capabilities, high speed analog measurements, multiple programs support with different cycle times, open communication functions and enterprise-level network integration.

Different domain applications, such as discrete control, process control and motion control, have traditionally adopted proprietary controllers, which require developers to spend a lot of effort on software development and maintenance. These requirements would be best suited with a controller that supports single development tools and has multiple domain functionality. The new controller architecture integrates multiple domain functionality on single controller which saves on system design costs, project implementation, maintenance, training efforts and spare part stock.

In order to satisfy the market demands for complex control, the concept of the Programmable Automation Controller (PAC) is emerging in the market. PAC's define the new generation of industrial controllers which feature the PC's openness, high performance CPU, rich memory and powerful software functionality as well as the PLC's reliability and robustness. The terminology Programmable Automation Controller (PAC) is defined by ARC Advisory Group.

The Definition of a PAC is as Follows:

- Multi-domain functionality, including logic, motion, drives and process on a single platform
- Single multi-discipline development platform incorporating common tagging and a single database
- Software tools that allow design by process flow across several machines or process units
- Open, modular architectures that mirror industry applications from machine layouts in factories to unit operations in process plants

Programmable Automation Controllers

 Employs de-facto standards for network interfaces and languages, etc., allowing data exchange as part of networked multi-vendor systems



How Will PAC's Penetrate the PLC Market?

PAC's focus on complex control applications, rather than displace the traditional configurations of simple control applications, where PLC's currently work very well.

Complex control applications need a PAC's flexibility, so users can customize and optimize it to meet their particular requirements for controlling and automating both machines and plants. All parts of the PAC system are designed to maximize software and hardware integration. There should be one programming and engineering tool for a complete system. This capability includes transparent access for all parameters and functions within the entire system, combining PLC, remote I/O, motion control, drives, PID control, and data handling, along with a maximum integration level to the enterprise though the use of Ethernet TCP/IP, Internet, and IT standards.

Use of PAC's will continue to shift the emphasis toward open communication standards and software integration, with less focus on the hardware. Users will become more focused on the total system performance rather than the hardware selection. So PAC's will win more satisfactions from customers who are not satisfied by traditional PLC's especially when they need more than simple discrete I/O control function.

Advantech PAC Solutions

Open PAC System – ADAM-5550KW Series

ADAM-5550KW is a Programmable Automation Controller designed for control tasks which require Industrial PC computing performance with the PLC's robustness. ADAM-5550KW offers an AMD Geode GX533 CPU along with control specific features such as watchdog timer, battery backup RAM and deterministic I/O. ADAM-5550KW features 5 standard IEC61131-3 programming languages in CE 5.0, so PLC users can develop control strategies with their own familiar programming languages. The powerful Multiprog KW Software and stable ProConOS have allowed ADAM-5550KW to become the best choice for a Programmable Automation Controller on the market today. With the optional HMI Software and built-in VGA port, no longer will users be required to build up additional SCADA PC's in their applications. This open PAC system is ideal for a variety of applications ranging from machine automation to SCADA applications.

Compact PAC System – UNO-2171KW

UNO-2171KW is a compact size Programmable Automation Controller designed for control tasks which require Industrial PC computing performance with the PLC's robustness. UNO-2171KW offers a high-performance Celeron M 1GHz CPU and supports PC/104 expansion. The selected PC-104 cards such as AMONet Motion Control ,Analog I/O modules, Digital I/O modules and Serial communication module are available for the KW SoftLogic support. This compact PAC system is ideal for a variety of applications such as motion, vision and transportation applications.

PAC Characteristics

Multi-domain Functionality on a Single Platform

 PAC's will play a major role in different application domains by adhering to open industry standards and providing multidiscipline programming and functionality.

Single Developing Tool for Various Form Factors

- A single programming tool provides transparent access for all parameters and functions within the entire system. A single platform can combine PLC, SoftLogic, remote input/output (I/O), motion control, PID control and data handling.
- Requires only a one-time design, and then can easily leverage the control knowhow into different control platforms to meet versatile automation projects needs

Supports IEC-61131-3 Programming Languages

- The standard includes Ladder Diagram, Function Block, Sequential Function Chart, Structure Text and Instruction List which covers almost all PLC programming languages.
- Cross languages for three graphical languages is supported to simplify control programs

Multiple Speeds with Deterministic I/O

 Some control systems require various speed applications, and PAC's provide multiple speeds with deterministic I/O.

VGA Port

 Most of PAC system provides VGA port, no need additional Human Machine Interface, the system can connect directly to display and that save lot of cost.

Seamless Integration between SoftLogic and HMI Software

SoftLogic creates single tagging database and HMI Software shares the same tagging database

Distributed PAC System – AMAX-2050KW

AMAX-2050KW is a Pentium III grade platform with an onboard AMONet controller, which is designed for embedded machine automation applications. It provides special mechanism to protect machine builder's IP, also the self diagnostic function. From the peripheral point of view, with one AMONet, master port AMAX-2050KW can control up to 2048 I/O points and 64 axes. Also, AMAX-2050KW offers one LAN and dual USB interfaces to fulfill user's various communication needs. In addition, it also offers two RS-232 and one RS-422/485 communication port with automatic flow control functionality. Because of its openness, great expansion capabilities and reliable design (fanless and diskless), the AMAX-2050KW is an ideal distributed PAC system to implement custom applications for diversified applications.



Transfer Data and Information via Ethernet and IT Standard Technology

 Utilization of Ethernet, Internet and IT standards such as FTP, Web Server, Email Alarm, SQL, and OPC

Standard Communication

Multi-vendor data exchange by utilizing de-facto standard such as Modbus

Open and Modular Architecture Flexible for upgrade and maintenance

Easy to expand local and remote I/O modules

Storage Function

PAC Storage function can be set for your assigned time and conditions.

Complex Control Functions

- Complex control algorithms need powerful floating point calculations and large memory capacity.
- The software development tool provides PID Function Block and allows users to develop custom function blocks with proprietary complex controls, such as Fuzzy Logic Control and Neural Network Control.

Remote Maintenance

 Operators can access the supplier's Web site, allowing technicians to diagnose and troubleshoot problems directly from the plant floor by PAC's Web-based monitoring and maintenance function.

KW MULTIPROG®

IEC-61131-3 SoftLogic Control Software



Features

- IEC 61131-3 Programming languages
- Intuitive programming with a clear project structure
- Cross-compiling: FBD, LD and IL can be cross-compiled to each other
- Multi user functionality shortens programming time
- Management of distributed controls
- Network variables: Easy and powerful configuration of distributed communication
- Powerful debugging tools: Online changes, PLC simulation, Overwriting & forcing, breakpoints, watch windows & recipes, Logic analyzer, and cross reference.

Introduction

MULTIPROG[®] supports all IEC 61131-3 programming languages. Depending on the task to be handled, your experience and company standards, you may choose one of the five standardized programming languages. The use of MULTIPROG offers you many advantages. Our long-term experience in the automation industry guarantees you a sophisticated software product.

The open architecture of MULTIPROG provides a new direction in the creation of automation software. MULTIPROG Automation Interface guarantees consistent data. Via the automation interface, MULTIPROG opens its data for other tools. MULTIPROG allows external creation and modification of its project data. Furthermore, specific attributes can be added. As all essential data can be displayed in MULTIPROG, frequent switching between different tools during PLC programming and commissioning is no longer necessary. Observers guarantee data consistence with other tools, thus the engineering effort for the programming of PLCs is reduced.

Reliability by Experience

KW MULTIPROG is based on an embedded softlogic controller that has been applied in the automation industry since 1991. With over 250,000 runtime installations worldwide, a sophisticated and reliable product is available which is continuously adapted to new technologies.

Specifications

Hardware Requirements

Device	Minimum	Recommended
IBM compatible PC with Pentium Processor	200 MHz	350 MHz
System RAM	64 MB	128 MB
Hard Disk	60 MB free memory space	
CD-ROM drive		
VGA Monitor Color Settings Resolution	256 colors 800 x 600	True color 1024 x 768
RS-232 interface	Optional	
Mouse	Recommended	

Advantech Hardware Supported

- ADAM-5550KW Series
- ADAM-5510KW Series
- UNO-2171KW
- AMAX-2050KW

Software Requirements

- Microsoft[®] Windows NT 4.0 SP5 or Windows 2000/XP
- Microsoft Internet Explorer 5.02 or above

IEC 61131-3 Programming Languages (all supported)

- Instruction List (IL)
- Structured Text (ST)
- Function Block Diagram (FBD)
- Ladder Diagram (LD)
- Sequential Function Chart (SFC)
- All programming languages can be mixed within one project

Ordering Information

- MPROG-BAS33
- MPROG-ADV33 KW M
- KW Multiprog Softlogic Development Kit Basic Edition v3.3 for Windows NT/2000/XP (128-byte I/O) KW Multiprog Softlogic Development Kit Advanced
- PROCON-NTOPC20
- Edition v3.3 for Windows NT/2000/XP (64k-byte I/0) KW ProConOS OPC Server Runtime License V 1.12 for Windows NT/2000/XP (ADAM-5510KW Series is not
- PROCON-CEOPC20
 KW ProConOS OPC Server Runtime License v2.0 for Windows CE.NET (ADAM-5510KW Series is not supported)

KW for Programmable Automation Controllers

Advantech Programmable Automation Controller (PAC) solution leverages KW-Software's Multiprog and ProConOS as the single developing tool and SoftLogic control kernel. It requires only a one-time design, and then can easily leverage the control know-how into different control platforms to meet versatile automation projects needs. KW SoftLogic also creates single tagging database and HMI Software, such as Advantech Studio, shares the same tagging database by OPC server under Windows CE operating system. All the features can help users to save the visible and invisible cost.

Industry Standard IEC 61131-3 Programming

For faster time-to-market and reduced support costs, take advantage of programming support for the five globally recognized PLC languages: Ladder Diagram, Function Block, Sequential Function Chart, Structured Text, and Instruction List. Develop your application in any one of the five languages, or use any combination that fits your development needs.

Real-time Logic Execution

Programmable Automation Controllers offers real-time, deterministic execution of your application code down to 1 milli-second resolution. Take advantage of Programmable Automation Controllers optimized logic runtime engine that automatically complies your IEC-61131 application code for maximum performance. Programmable Automation Controllers brings the benefits of real-time control to a cost effective, so you can take advantage of local real-time control with a wide range of remote monitoring and management features. All this integrated into one package!

Integrated Development Environment

Programmable Automation Controllers brings integrated programming of logic and HMI to simplify programming and maintenance tasks. Integrated and synchronized database management eliminates the need to create and track multiple database items for HMI and logic programs, with the benefits of reduced programming time and fewer startup errors for your project. And, take advantage of Programmable Automation Controllers powerful on-line debugging tools to quickly track down and correct programming errors.

Programmable Automation Controllers

Broad Range of I/O Support

The Programmable Automation Controllers product series offers flexible I/O support to meet a wide range of application requirements. Take advantage of Programmable Automation Controllers powerful integrated HMI and logic functions in combination with an array of distributed serial and Ethernet I/O products, or choose a platform with fully integrated I/O for maximum performance and cost effectiveness.

Automatic Remote Handling of Events & Alarms via Email

Programmable Automation Controllers support alarm and event handling. Track local conditions and generate reports based on time, event, or exception conditions, then automatically issue reports or alarms via e-mail worldwide! By monitoring conditions and trends in real time, Programmable Automation Controllers offers the possibility to predict failures before they cause service interruptions or lost production. Protect and optimize the investment in your machine, process, or facility with Programmable Automation Controllers.

Browser-only Client for Remote Monitoring

With Programmable Automation Controllers use Internet Explorer or Netscape browser software to remotely (via Intranet or Internet) monitor or control your machine, process, or facility. This offers true "zero cost" remote access with full security capability, so you can efficiently monitor and troubleshoot from anywhere in the world. Take advantage of this feature to lower your service costs and reduce or eliminate downtime.

Open Interfaces for Maximum Flexibility

Take advantage of the open architecture of the Programmable Automation Controllers with support for standard connectivity interfaces like OPC, XML, and SQL. Easily integrate standard information technologies into your existing factory or building network structure and take advantage of the benefits of local control with global connectivity!



Distributed PAC System

PAC & Software

Advantech Studio

Web-enabled HMI/ SCADA Software



Features

- Publish real-time dynamic and animated graphic screens, trends, alarms, reports, and recipes to standard browsers
- Import and export recipes, reports and real-time data using the XML format
- Use the same development environment as applications running on Microsoft[®] Windows[®] NT/2000/XP and CE.NET or on the Web
- Integrates seamlessly with your Windows desktop applications (such as Microsoft Word and Excel)
- View multiple clients from one Web browser
- · Multi-level security for applications, including use over Intranets and Internet
- Conforms to industry standards such as Microsoft DNA, OPC, DDE, ODBC, XML, and ActiveX
- Software protection type: Softkey

Introduction

Advantech Studio is a powerful, integrated collection of automation tools that includes all the building blocks required to develop modern Human Machine Interfaces (HMIs), and Supervisory Control and Data Acquisition System (SCADA) applications that run on Windows NT/2000/XP and CE.NET, or in an Internet/Intranet environment. A simple drag and drop, point and click development environment simplifies the most complex behavior of your live processes, but a flexible and easy-to-use scripting language is also available for special requirements. Advantech Studio is currently being used in nearly 2,000 installations worldwide.

Advantech Studio for Windows CE.NET is based on Advantech Studio's full scale supervisory control and monitoring system, and has almost all of the same features, including an object-oriented database, math functions, report generation, archiving, alarms, batch recipes, and interfaces for PLCs, remote I/O and TCP/IP networking. In other words, Advantech Studio for Windows CE.NET is a full-function supervisory control and monitoring system that fits in the palm of your hand or can be embedded in the chipset of a low-cost operator interface. Advantech Studio for Windows CE.NET is software for complete supervisory control and process monitoring with an operator interface that is available for the Microsoft Windows CE.NET operating system platform.

System Requirements

	Product Series or Part Number	AS256-WR60	AS256-WD60	AS512-WR60	AS512-WD60	AS1500-WS60	AS1500-WR60
Tuno	S/W Scope	Win32 Lite	Win32 Lite	Win32 Lite Plus	Win32 Lite Plus	Local Interface	Local Interface
The	Authorized Version	R	D	R	D	S	R
Overview	Development Tool OS	-	WinNT/2K/XP	-	WinNT/2K/XP	WinNT/2K/XP	-
Overview	Runtime OS	WinNT/2K/XP	-	WinNT/2K/XP	-	WinNT/2K/XP	WinNT/2K/XP
Database	Application Tags	up to 256	up to 256	up to 512	up to 512	up to 1,500	up to 1,500
Communicatation	Drivers	only 2	only 2	only 2	only 2	3 by default	3 by default

	Product Series or Part Number	AS1500-WD60	AS4000-WS60	AS4000-WR60	AS1500-CD60	AS4000-CD60	WebLink	WebOIT
Туре	S/W Scope	Development	Operator Workstation	Operator Workstation	Development for CE Runtime	Development for CE Runtime	CE Runtime	CE Runtime
	Authorized Version	D	S	R	D	D	R	R
Overview	Development Tool OS	WinNT/2K/XP	WinNT/2K/XP	-	WinNT/2K/XP	WinNT/2K/XP	-	-
Overview	Runtime OS	-	WinNT/2K/XP	WinNT/2K/XP	-	-	WinCE	WinCE
Database	Application Tags	up to 1,500	up to 4,000	up to 4,000	up to 1,500	up to 4,000	up to 4,000	up to 4,000
Communicatation	Drivers	3 by default	5 by default	5 by default	only 3	up to 3	up to 3	up to 3

Legend	
Supported	\checkmark
D	Determined by Development version only
R	Determined by Runtime version only
S	Suit version includes Development and Runtime versions

Advantech Studio

Specifications

Pre-built Servers

HMI Functions

Web Server, FTP Server, Telnet Server, Remote Access Server (RAS)

- 100+ built-in PLC drivers (up to 3 running simultaneously)
- 8 simultaneous web clients
- OPC Client and Server
- Email (SMTP) Integration
- Fully featured dynamic graphics with object library
- Alarming, Trending, Reporting features
- Scripting Language with 100+ standard functions
- Recipes (ASCII and XML formats)
- Remote project management including online editing
- Multi-level security for use over Intranet and Internet

System Requirements: Development Environment

- Microsoft Windows XP, 2000, NT 4.0 service pack 4 or higher
- Min. 256 MB of RAM. (512 MB Recommended)
- 100 MB of free hard-disk space for installation
- CD-ROM drive (for installation only)

System Requirements: Runtime Environment

- Windows CE.Net
- Min. 64 MB of memory
- or
- Microsoft Windows 2000/XP/NT 4.0 with Service Pack 4 or higher
- Min. 32 MB of RAM. (64 MB Recommended)
- · Web Browser that supports ActiveX objects

Hardware Platforms Supported

- ADAM-5550KWAS
- 8-slot Programmable Automation Controller with KW & AS1500-CR60

Applications

- Remote Utility Management
- Building Automation
- Water and Wastewater Management
- Factory Automation
- Machine Builder

Ordering Information

Suit Version

AS1500-WS60	AStudio Development Kit Professional Edition for
	Windows XP/2000/NT
	(including DEV and RT Editions)
- AS4000-WS60	AStudio Workstation Professional Edition for Window
	XP/2000/NT
	(including DEV and RT Editions)

Development Version

- AS256-WD60
- AStudio Developement Kit for Windows XP/2000/NT (Asia Only)
- AS512-WD60 AStudio Developement Kit for Windows XP/2000/NT (Asia Only)
- AS1500-WD60 AStudio Developement Kit for Windows XP/2000/NT
- AS1500-CD60 AStudio Developement Kit for Windows CE .NET
- AStudio Workstation Development Kit for Windows CE
 .NET

Runtime Version

AS256-WR60AS512-WR60

AStudio Runtime Edition for Windows XP/2000/NT (Asia Only)

AStudio Runtime Edition for Windows XP/2000/NT (Asia Only)

Upgraded kit from AS1500-CD51 to AS1500-CD60

Upgraded kit from AS1500-WD51 to AS1500-WD60

Upgraded kit from AS4000-CD51 to AS4000-CD60

Upgraded kit from AS4000-WS51 to AS4000-WS60

AStudio Runtime Edition for Windows XP/2000/NT AStudio Runtime Edition for Windows XP/2000/NT

Upgrade Kit

AS1500-CD60/U

AS1500-WR60

AS4000-WR60

- AS1500-WD60/U
- AS4000-CD60/U
- AS4000-WS60/U

Communication Drivers

Advantech	ADAM-4000, ADAM-5000/485, ADAM-6000					
	AEG Compact PLC*, ModCon 984E*, Quantum Family					
AEG Schneider	ModCon 984E* Ethernet Quantum Ethernet Family					
(Woulcon Square	MODBUS Plus compatible equipment					
D lelelilecallique)	Symax					
	Family PLC2					
Allon Prodlov	Family PLC5					
Allell-Diduley	Family SLC500					
	Family 5000					
Cutler-Hammer	D50*, D300					
GE-Fanuc	Series 90, 90/30 CPU 341*					
Mitsubishi	FX-232AW					
	C-series Rack PCs					
	Sysmac way					
Omron	Host link units					
	Sysmac C200H*					
	E5CK/E5AF					
Phoenix	Interbus Compatible					
	S5 (PG port)					
	S5/S7 3964R, S7 (MPI)					
	Profibus DP Slave Compatible					
Siemens	Profibus DP Master Compatible					
	Profibus FMS Compatible					
	S5-945 PG Port					
	MXT521					
	UT35					
	HR2500E					
	DA100					
Yokogawa	UT37/UT38					
-	UT750, UP750, UT550, UT520, UP550, UT350, UT320,					
	UM350, UM330, UP350					
	YS100					
Modbus Ethernet	Modbus/TCP					
Modbus	RTU/ASCII					
OPC	Server/Client					

Note: Advantech Studio V6.0 supports more than 150 communication drivers for 3rd party devices from different manufacturers such as Omron, Allen-Bradley, Siemens, and many more.



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ADAM-5500 Series Controllers Selection Guide

System	ADAM-5510M/5510E	ADAM-5510/TCP Adam-5510e/TCP	ADAM-5510KW/ 5510EKW	ADAM-5510EKW/TP	ADAM-5550KW			
CPU		AMD Geode GX533 (GX2)						
RAM		128 MB DDR SDRAM						
Flash ROM		256	6 KB		-			
Flash Memory	256 KB	256 KB	768 KB	768 KB	-			
Flash Disk	1 MB	1 MB	512 KB	512 KB	-			
0\$		ROM	-DOS		WinCE 5.0			
Real-time Clock			Yes					
Watchdog Timer			Yes					
COM1	RS-232 RS-232 RS-232 (ADAM-5510M) (ADAM-5510/TCP) (ADAM-55510KW) RS-232/485 RS-232/RS-485 RS-232/485 (ADAM-5510E) (ADAM-5510E/TCP) (ADAM-5510E/TCP)		RS-232/485	RS-232/485				
COM2			RS-485					
COM3 (Programming)	RS-232 (TX, RX, GND)	RS-232 (TX, RX, GND)	RS-232 (TX, RX, GND)	RS-232 (TX, RX, GND)	RS-232			
COM4			RS-232/485					
I/O Slots		4/8			8			
Power Consumption		4	W		12 W			
Isolation								
Communication		2500V _{DC} (COM2 RS-485) 1000V _{DC} (COM4 RS-485)						
Communication Power								
I/O Module			$3000 V_{\text{DC}}$					
Diagnosis								
Status Display		Power, CPU, Com	munication, Battery		Power, User define			
Self Test			Yes, while ON					
Software Diagnosis			Yes					
Communication	1							
Network	RS-232/485	Ethernet (RJ-45)	RS-232/485	Ethernet (RJ-45)	Ethernet (2 x RJ-45)			
Speeds	1200 bps ~ 115.2 kbps	10/100 Mbps	9600, 38400, 57600 bps and 115.2 kbps	10/100 Mbps	10/100 Mbps			
Max. Distance	4000 feet (1.2 km)	150 m	4000 feet (1.2 km)	150 m	150 m			
Data Format	N, 8, 1, 1	-	N, 8, 1, 1	-	-			
Max. Nodes	32	256 for Ethernet, 32 for RS-485	32	32	-			
Protocol	User Defined Modbus/RTU	Modbus/RTU, Modbus/TCP						
Remote I/O	Modbus Device							
Power Requirements			$+10 \sim +30 V_{DC}$					
Environment								
Operating Temperature		-10 ~ 70° C	(14 ~ 158° F)		0 ~ 50° C (32 ~ 122° F)			
Storage Temperature			-25 ~ 85° C (-13 ~ 185° F)					
Humidity			5 ~ 95%					
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Distributed Controllers Selection Guide

Instruction Instruction <thinstruction< th=""> <thinstruction< th=""></thinstruction<></thinstruction<>	Svstem	ADAM-5000/485	ADAM-5000E	ADAM-5000L/TCP	ADAM-5000/TCP				
CAM - - 4 MB Tash Monoy - - 4 MB Tash Monoy - - 512 KB Tash Monoy - - 512 KB Tash Monoy - - - Timer BIOS - - - Sold Orgenaming) TX, KX GND - - Yes Sold Orgenaming) TX, KX GND - YOS Solts 4 8 4 8 Orwer Cossumption 3 W 4 0 W 5.0 W Solation 2500 V _{sc} 3000 V _{sc} Ebernet: 3000 V _{sc} Solation 2500 V _{sc} 3000 V _{sc} - Solation 2500 V _{sc} 3000 V _{sc} - Solation 2500 V _{sc} 3000 V _{sc} -	CPU	80188	80188	RISC	CPU				
Tash R0M (user's AP) - - 512 K8 Tash Mamory data storage) - - - - Tash Dik - - - - Tash Dik - - - - Station - - - - Tash Dik - - - - Station - - - - Velocitie RS-485 RS-485 RS-485 Notocitie Velocitie - 3000 Voc S000 Voc S000 Voc S000 Voc Soldison 2500 Voc 3000 Voc S000 Voc Communication Communication Software Diagnosis - <td< td=""><td>RAM</td><td>-</td><td>-</td><td>4 1</td><td>VB</td></td<>	RAM	-	-	4 1	VB				
Tesh Memory data storage) - - - Tash Disk -	Flash ROM (user's AP)	-	-	512	KB				
Tash Disk - - - DS - - real-time 0S Timer BIOS - - - Real-time Clock - - - Construction - - - Real-time Clock - - - Construction RS-485 RS-485 RS-485 OWI (CON2 RS-485 RS-485 RS-485 Consumption 3 <w< td=""> 4.0 W 5.0 W Solation 3W 4.0 W 5.0 W Solation 2500 Vsc 3000 Vsc RS-485: 1500 Vsc Solation 2500 Vsc 3000 Vsc RS-485: 1500 Vsc Solation 2000 Vsc 3000 Vsc Communication Solation 2000 Vsc 3000 Vsc Communication Solatia</w<>	Flash Memory (data storage)	-	-	-	-				
IS - - real-time OS Timer BIOS - - - Watchdog Timer - - - Watchdog Timer Yes RS-485 RS-485 RS-485 (Modbus) OMI (COM2 RS-485 RS-485 RS-485 (Modbus) - OMI (COM2 RS-485 RS-485 RS-485 (Modbus) - OMI (Solds 4 8 4 8 Power Consumption 3W 4.0 W 5.0 W solation - - - Communication Power 2500 Vsc 3000 Vsc 3000 Vsc Communication Communication Power 2500 Vsc 3000 Vsc - - - Communication Power 2500 Vsc 3000 Vsc Communication Communication - - - Soltware Diagnosis Yes, while ON - - - - - Soldware Diagnosis Yes, while ON Soldware Diagnosis - Yes - - - -	Flash Disk	-	-	-	-				
Timer BIOS - - - Veal-time Clock - - - - Veal-time Clock - - - - Stathog Timer - - - - SOM3 (Programming) TX, RX, GND - - - ON Stots 4 8 4 8 - Sover Consumption 3W 4.0 W 5.0 W - Solation - - - - - Communication Power - - - - - Communication Power -	0\$	-	-	real-tir	me OS				
Real-line Clock - - - - - - Watchdog Timer - Yes Value Guiner RS-485 RS	Timer BIOS	-	-	-	-				
Match og Timer Yes COM / COM2 RS-485 RS	Real-time Clock	-	-	-	-				
DOM1/COM2 RS-485 RS-485 RS-485 RS-485 RS-485 (Modbus) 20043 (Programming) TX, RX, GND 8 4 8 20043 (Programming) TX, RX, GND 8 4 8 20045 (OS lots 4 8 4.0 W 5.0 W 5.0 W solation 2500 V ₀₅ 3000 V ₀₅ RS-485 1500 V _{p0} . Ethernet: 3000 V ₀₆ . Communication Power 2500 V ₀₆ 3000 V ₀₆ . RS-485 1500 V _{p0} . Ethernet: 3000 V ₀₆ . Communication Power 2500 V ₀₆ 3000 V ₀₆ . 70. Ethernet: 3000 V ₀₆ . Soltware Diagnosis	Watchdog Timer		Y	es					
DDM3 (Programming) TX, RX, GND Image: marked state	COM1/COM2	RS-485	RS-485	RS-485 (Modbus)				
/0 Slots 4 8 4 8 Power Consumption $3 W$ $4.0 W$ $5.0 W$ solation $3 W$ $4.0 W$ $5.0 W$ Sommunication $2500 V_{Sc}$ $3000 V_{Sc}$ RS-485: 1500 V_{Sc} Communication Power $3000 V_{Sc}$ $RS-485: 1500 V_{Sc}$ Communication O'M dodue $3000 V_{Sc}$ $3000 V_{Sc}$ $RS-485: 1500 V_{Sc}$ O'Andrule $3000 V_{Sc}$ $3000 V_{Sc}$ $3000 V_{Sc}$ Diagnosis VSC $3000 V_{Sc}$ $CCU, COMMUNICATION V_{Sc}$ Software Diagnosis Ves , while $0N$ $CCU, COMMUNICATION V_{SC}$ $COMMUNICATION V_{SC}$ Software Diagnosis Ves , status Display Power, CPU, Communication Ves $COMMUNICATION V_{SC}$ Software Diagnosis Ves , shile $0N$ Ves , shile $0N$ $COMMUNICATION V_{SC}$ $COMMUNICATION V_{SC}$ Software Diagnosis Ves , shile $0N$ Ves $OOM (192 K, 33.4 K, 57.6 K, 115.2 K, N, 38.4 K, 57.6 K, 1$	COM3 (Programming)	TX, R)	(, GND						
Power Consumption 3 W 4.0 W 5.0 W solation solation 2500 V _{SC} 3000 V _{SC} Bit Addition	I/O Slots	4	8	4	8				
Solation 2500 Vac 3000 Vac RS-485: 1500 Vac Communication Power 3000 Vac RS-485: 1500 Vac Ethernet: 3000 Vac Communication Power 3000 Vac 3000 Vac Status Display Status Display Status Display Power, CPU, Communication Power, CPU, Error Diagnostic, Communication Self Test Power, CPU, Communication Power, CPU, Error Diagnostic, Communication Communication Software Diagnosis Ves Ves Software Diagnosis Communication Software Diagnosis Ves Ves Software Diagnosis Ethernet Software Diagnosis Ves Ves Software Diagnosis Ethernet Software Diagnosis Ves Ves Software Diagnosis Ethernet Software Diagnosis Ves Software Diagnosis Ethernet Software Diagnosis Software Diagnosis Ethernet Software Diagnosis RS-232/485 (2-wire) RS-232/485 (2-wire) RS-232/485 (2-wire) Ethernet Software Diagnosis 1200, 2400, 4800, 9600, 192 K, S7 6 K, 115.2 K 38.4 K, 67 6 K, 115.2 K 38.4 K, 67 6 K, 115.2 K <td< td=""><td>Power Consumption</td><td>3</td><td>W</td><td>4.0 W</td><td>5.0 W</td></td<>	Power Consumption	3	W	4.0 W	5.0 W				
Communication 2500 Vac 3000 Vac RS-485: 1500 Vac Ethernet: 3000 Vac Communication Power 3000 Vac 3000 Vac 3000 Vac Ethernet: 3000 Vac /0 Module 3000 Vac 3000 Vac 3000 Vac 3000 Vac /0 Module 3000 Vac 3000 Vac 3000 Vac 3000 Vac /0 Module 3000 Vac 9000 Vac 3000 Vac 3000 Vac /0 Module 3000 Vac 9000 Vac 9000 Vac 9000 Vac /0 Module 9000 Vac 9000 Vac 9000 Vac 9000 Vac /0 Maxing Data Power, CPU, Communication Power, CPU, Error Diagnostic, Communication Communication nterface RS-232/485 (2-wire) RS-232/485 (2-wire) Ethernet /0 Maxing Data S8.4 K, 57.6 K, 115.2 K 10 M, 100 M 100 M, 100 M /0 Max. Distance 4000 feet (1.2 km) 4000 feet (1.2 km) 100 m without repeater /0 Advantech protocol: N.8,1 N.8,1 N.8,2 E.8,1 N.8,1 N.8,2 E.8,1 TCP/IP N.8,1 N.8,2 E.8,1 Yac /0 Advantech protocol: N.8,1 N.8,2 E.8,1 N.8,2 N.8,2 E.8,1	Isolation								
Communication Power 3000 V _{oc} /0 Module 3000 V _{oc} Diagnosis 3000 V _{oc} Status Display Power, CPU, Communication Power, CPU, Error Diagnostic, Communication Self Test Yes, while 0N Software Diagnosis Yes Communication res ntterface RS-232/485 (2-wire) 1200, 2400, 4800, 9600, 192 K, 38.4 K, 57.6 K, 115.2 K 1200, 2400, 4800, 9600, 19.2 K, 38.4 K, 57.6 K, 115.2 K Speeds (bps) 1200, 2400, 4800, 9600, 19.2 K, 38.4 K, 57.6 K, 115.2 K 10 M, 100 M Advantech protocol: N,8,1 Modbus protocol: N,8,1 Modbus protocol: N,8,1 Modbus protocol: N,8,1 N,8,2 E,8,1 O,8,1 CP/IP Advantech protocol: N,8,1 Modbus protocol: N,8,1 Modbus protocol: N,8,1 N,8,2 E,8,1 O,8,1 CP/IP Max. Nodes 1228 Depend on IP address Protocols ADAM ASCII/Modbus Protocol Modbus/TCP Remote I/O - - 20 modes Modbus devices Power Requirements +10 ~ +30 V _{oc} - invironment -10 - 70° C (14 - 158° F) - Operating Temperature -25 - 86° C (-13 - 185° F) - Humidity 5 - 95% - -25	Communication	2500 V _{DC}	3000 V _{DC}	RS-485: Ethernet:	1500 V _{pc} 3000 V _{pc}				
/0 Module 3000 Vac Diagnosis Power, CPU, Communication Power, CPU, Error Diagnostic, Communication Self Test Yes, while ON Software Diagnosis Yes Communication Yes Interface RS-232/485 (2-wire) RS-232/485 (2-wire) Speeds (bps) 1200, 2400, 4800, 9600, 192 K, 38, 4 K, 57.6 K, 115.2 K 1200, 2400, 4800, 9600, 192 K, 38, 4 K, 57.6 K, 115.2 K 10 M, 100 M Speeds (bps) 4000 feet (1.2 km) 4000 feet (1.2 km) 100 m without repeater Advantech protocol: N,8,1 Modbus protocol TCP/IP N,8,2 E,8,1 O,8,1 128 Depend on IP address Vax. Nodes 128 128 Depend on IP address Protocols ADAM ASCI/Modbus Protocol ADAM ASCI/Modbus devices 20 nodes Modbus devices Power Requirements +10 - +30 Vac +10 - +30 Vac 20 nodes Modbus devices Power Requirements -10 - 70° C (14 - 158° F) 20 nodes Modbus devices 20 nodes Modbus devices Power Requirements -10 - 70° C (14 - 158°	Communication Power	3000 V _{pc}							
Diagnosis Power, CPU, Communication Power, CPU, Error Diagnostic, Communication Self Test	/O Module	3000 V _{DC}							
Status Display Power, CPU, Communication Power, CPU, Error Diagnostic, Communication Self Test Yes, while ON Software Diagnosis Yes Communication Yes Interface RS-232/485 (2-wire) RS-232/485 (2-wire) Ethernet Speeds (bps) 1200, 2400, 4800, 9600, 192 K, 38.4 K, 57.6 K, 115.2 K 10 M, 100 M 100 m, without repeater Max. Distance 4000 feet (12 km) 4000 feet (12 km) 100 m without repeater Data Format Advantech protocol: N,8,1 Modbus protocol: N,8,1 N,8,2 E,8,1 TCP/IP Vax. Nodes 128 128 Depend on IP address Protocols ADAM ASCII/Modbus Protocol Modbus protocol Modbus protocol N,8,1 N,8,2 E,8,1 20 nodes Modbus devices Protocols ADAM ASCII/Modbus Protocol Modbus protocol Modbus devices Protocols ADAM ASCII/Modbus Protocol Modbus devices 20 nodes Modbus devices Power Requirements +10 - +30 V _{ac} -10 - 70° C (14 - 158° F) - Storage Temperature -25 - 85° C (-13 - 185° F) - <td< td=""><td>Diagnosis</td><td>·</td><td></td><td></td><td></td></td<>	Diagnosis	·							
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Communication Interface RS-232/485 (2-wire) RS-232/485 (2-wire) Ethernet Speeds (bps) 1200, 2400, 4800, 9600, 192 K, 38.4 K, 57.6 K, 115.2 K 1200, 2400, 4800, 9600, 19.2 K, 38.4 K, 57.6 K, 115.2 K 10 M, 100 M Max. Distance 4000 feet (1.2 km) 4000 feet (1.2 km) 100 m without repeater Max. Distance 4000 feet (1.2 km) 4000 feet (1.2 km) 100 m without repeater Max. Distance 4000 feet (1.2 km) Advantech protocol: N,8,1 Modbus Protoco	Software Diagnosis		Y	es					
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Max. Distance4000 feet (1.2 km)4000 feet (1.2 km)100 m without repeaterAdvantech protocol: N,8,1 Modbus protocol: N,8,1 N,8,2 E,8,1Advantech protocol: N,8,1 N,8,2 E,8,1Advantech protocol: N,8,1 N,8,2 E,8,1TCP/IPMax. Nodes128128Depend on IP addressProtocolsADAM ASCII/Modbus ProtocolADAM ASCII/Modbus ProtocolModbus/TCPRemote I/O20 nodes Modbus devicesPower Requirements10 ~ 70° C (14 ~ 158° F)Storage Temperature-25 ~ 85° C (-13 ~ 185° F)Humidity5 ~ 95%Page1-181-20	Speeds (bps)	1200, 2400, 4800, 9600, 192 K, 38.4 K, 57.6 K, 115.2 K	1200, 2400, 4800, 9600, 19.2 K, 38.4 K, 57.6 K, 115.2 K	10 M,	100 M				
Advantech protocol: N,8,1 Modbus protocol: N,8,1 N,8,2 E,8,1Advantech protocol: N,8,1 Modbus protocol: N,8,1 N,8,2 E,8,1Advantech protocol: N,8,1 Modbus protocol: N,8,1 N,8,2 E,8,1TCP/IPMax. Nodes128128Depend on IP addressProtocolsADAM ASCII/Modbus ProtocolADAM ASCII/Modbus ProtocolModbus/TCPRemote I/O20 nodes Modbus devicesPower Requirements+10 ~ +30 V_{BC}Environment10 ~ 70° C (14 ~ 158° F)Operating Temperature-10 ~ 70° C (14 ~ 158° F)Storage Temperature-25 ~ 85° C (-13 ~ 185° F)Aumidity5 ~ 95%Page1-181-20	Max. Distance	4000 feet (1.2 km)	4000 feet (1.2 km)	100 m with	out repeater				
Max. Nodes 128 128 Depend on IP address Protocols ADAM ASCII/Modbus Protocol ADAM ASCII/Modbus Protocol Modbus/TCP Remote I/O - - 20 nodes Modbus devices Power Requirements +10 ~ +30 V _{DC} 20 nodes Modbus devices Invironment - - 20 nodes Modbus devices Operating Temperature -10 ~ 70° C (14 ~ 158° F) - Storage Temperature -25 ~ 85° C (-13 ~ 185° F) - Aumidity 5 ~ 95% - - Page 1-18 1-20 -	Data Format	Advantech protocol: N,8,1 Modbus protocol: N,8,1 N,8,2 E,8,1 O,8,1	Advantech protocol: N,8,1 Modbus protocol: N,8,1 N,8,2 E,8,1	TCP/IP					
Protocols ADAM ASCII/Modbus Protocol ADAM ASCII/Modbus Protocol Modbus/TCP Remote I/O - 20 nodes Modbus devices Power Requirements +10 ~ +30 V _{DC} Environment - - Operating Temperature -10 ~ 70° C (14 ~ 158° F) Storage Temperature -25 ~ 85° C (-13 ~ 185° F) Humidity 5 ~ 95% Page 1-18 1-20	Max. Nodes	128	128	Depend on IP address					
Remote I/O - 20 nodes Modbus devices Power Requirements +10 ~ +30 V _{DC} Invironment - - 20 nodes Modbus devices Operating Temperature -10 ~ 70° C (14 ~ 158° F) - <td>Protocols</td> <td>ADAM ASCII/Modbus Protocol</td> <td>ADAM ASCII/Modbus Protocol</td> <td colspan="2">Modbus/TCP</td>	Protocols	ADAM ASCII/Modbus Protocol	ADAM ASCII/Modbus Protocol	Modbus/TCP					
Power Requirements +10 ~ +30 V _{DC} Environment -10 ~ 70° C (14 ~ 158° F) Operating Temperature -25 ~ 85° C (-13 ~ 185° F) Humidity 5 ~ 95% Page 1-18 1-20	Remote I/O	-	-	20 nodes Modbus devices					
Environment Operating Temperature -10 ~ 70° C (14 ~ 158° F) Storage Temperature -25 ~ 85° C (-13 ~ 185° F) Humidity 5 ~ 95% Page 1-18 1-20	Power Requirements		+10 ~	+30 V _{DC}					
Operating Temperature -10 ~ 70° C (14 ~ 158° F) Storage Temperature -25 ~ 85° C (-13 ~ 185° F) Humidity 5 ~ 95% Page 1-18 1-20	Environment								
Storage Temperature -25 ~ 85° C (-13 ~ 185° F) Jumidity 5 ~ 95% Page 1-18 1-20	Operating Temperature		-10 ~ 70° C	(14 ~ 158° F)					
Jumidity 5 ~ 95% Page 1-18 1-20	Storage Temperature		-25 ~ 85° C ((-13 ~ 185° F)					
Page 1-18 1-20	Humidity		5 ~	95%					
	Page	1-	18	1-:	20				

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ADAM-5000 Modules Selection Guide

IV	lodule	ADAM- 5013	ADAM- 5017	ADAM- 5017P	ADAM- 5017UH	ADAM- 5018	ADAM- 5018P	ADAM- 5024	ADAM- 5050	ADAM- 5051	ADAM- 5051D	ADAM- 5051S
	Resolution	16 bit	16 bit	16 bit	12 bit	16 bit	16 bit	-	-	-	-	-
	Input Channel	3	8	8	8	7	7	-	-	-	-	-
	Sampling Rate	10	10	10	200K	10	10	-	-	-	-	-
Analog Input	Voltage Input	-	±150 mV ±500 mV ±1 V ±5 V ±10 V	$\begin{array}{c} \pm 150 \text{ mV} \\ \pm 500 \text{ mV} \\ \pm 15V \\ \pm 10V \\ \pm 5 \text{ V} \\ \pm 1 \text{ V} \\ 0 ~ 150\text{mV} \\ 0 ~ 50\text{mV} \\ 0 ~ 70\text{ mV} \\ 0 ~ 5V \\ 0 ~ 10V \\ 0 ~ 15\text{ V} \end{array}$	±10 V 0 ~ 10 V 0 ~ 20 mV	±15 mV ±50 mV ±100 mV ±500 mV ±1 V ±2.5 V	±15 mV ±50 mV ±100 mV ±500 mV ±1 V ±2.5 V	-	-	-	-	-
	Current Input	-	±20 mA	±20 mA, 4 ~ 20mA	4 ~20 mA	±20 mA	4 ~ 20 mA	-	-	-	-	-
	Direct Sensor Input	Pt or Ni RTD	-		-	J, K, T, E, R, S, B	J, K, T, E, R, S, B	-	-	-	-	-
ut	Resolution	-	-		-	-	-	12 bit	-	-	-	-
og Outp	Voltage Output	-	-		-	-	-	0~10 V	-	-	-	-
Analo	Current Output	-	-		-	-	-	0~20 mA 4~20 mA	-	-	-	-
nput and Output	Digital Input Channels	-	-		-	-	-	-	16 DIO	16	16 W/LED	16 W/LED
Digital lı Digital	Digital Output Channels	-	-		-	-	-	-	selectable)	-	-	
	Channels	-	-		-	-	-	-	-	-	-	-
ter (32-bit)	Input Frequency	-	-		-	-	-	-	-	-	-	-
Count	Mode	-	-		-	-	-	-	_	-	-	-
MM	Channels	-	-		-	-	-	-	-	-	-	-
COI	Туре	-	-		-	-	-	-	-		-	-
ls	olation	3000 V _{DC}	$3000 \ V_{\text{DC}}$	300V _{DC}	3000 V _{DC}	$3000 \ V_{\text{DC}}$	$3000 V_{\text{DC}}$	$3000 V_{\text{DC}}$	-	-	-	$2500 V_{\text{DC}}$
	Page		1-28			1-29			1-3)		1-31

I/O Modules Selection Guide

				40.444						
ADAM-5052	ADAM- 5055S	ADAM-5056	ADAM- 5056D	ADAM- 5056S /5056S0	ADAM-5060	ADAM-5068	ADAM-5069	ADAM-5080	ADAM-5081	ADAM-5090
-	-	-	-	-	-	-	-	-		-
-	-	-	-	-	-	-	-	-		-
-	-	-	-	-	-	-	-	-		-
-	-	-	-	-	-	-	-	-		-
-	-	-	-	-	-	-	-	-		_
-	-	-	-	-	-	-	-	-		-
-	-	-	-	-	-	-	-	-		-
-	-	-	-	-	-	-	-	-		-
-	-	-	-	-	-	-	-	-		-
-	8 w/LED	-	-	-	-	-	-	-		-
8	8 w/LED	16	16 w/LED	16 w/LED	6 relay (2 form A/ 4 form C)	8 relay (8 form A)	8 power relay (form A)	-		-
-	-	-	-	-	-	-	-	4	8	-
-	-	-	-	-	-	-	-	5000 Hz (max)	5 Hz ~ 1 MHz max. (frequency mode) 1 MHz max. (counter mode)	-
-	-	-	-	-	-	-	-	Frequency, Up/ Down Counter, Bi-direction Counter	Frequency, up/down, Bi-direction, up, A/B Phase, Counter	-
-	-	-	-	-	-	-	-	-		4
-	-	-	-	-	-	-	-	-		RS-232
5000 VRMS	$2500 V_{DC}$	-	-	2500 V _{DC}	-	-	4000 V _{RMS}	1000 V _{RMS}	2500V _{DC}	-

ADAM-5000 Modules Selection Guide

Model		ADAM-5202	ADAM-5240			
	Number of Axes	-	4			
Axes	Linear Interpolation	-	V			
	2-Axis Circle Interpolation	-	V			
	Encoder Channels	-	4			
	Limit switch Input Channel	-	8			
	Home Input Channel	-	4			
	Emergency stop Input Channel	-	1			
	Slow Down Limit Switch	-	8			
Advanced Functions	General Purpose DI Channel	-	-			
	Servo On Output Channel	-	4			
	General Purpose DO Channel	-	4			
	Position Compare Event	-	V			
	Remote Motion	V	-			
	Remote I/O	V	-			
	Board ID	-	-			
Connectors		2 x RJ-45	100-PinSCSI-II			
Wiring Board		AMAX-3752F AMAX-3754F AMAX-3756F	ADAM-3952, ADAM-3952J2S			
Remote Motion Wiring Board		AMAX-3210 AMAX-3211/PMA AMAX-3212/J2S AMAX-3213/YS2				
Supported Controller		ADAM-5550KW				
Page		1-35				

I/O Modules Selection Guide

Model		ADAM-5030
	Туре	SD (Secure Digital Card)
Storage	Channel	2
	Size	2 GB (Max)
LICD	Туре	V2.0 (compliant)
038	Channel	2
Supported Controller		ADAM-5550KW
Page		1-35

ADAM-5550KW

8-slot Programmable Automation Controller



AMD Geode GX533 (GX2)

1 x CompactFlash® Card (Internal)

Modbus/RTU and Modbus/TCP

128 MB DDR SDRAM with 1 MB Battery Backup

2 x 10/100 Base-T Ethernet Interface with RJ-45

2500 V_{DC} (COM2 RS-485)/1000 V_{DC} (COM4 RS-485)

Power, User define

Windows® CE 5.0

8 slots

Yes

Yes

Yes

connectors

Features

- Designed for control tasks that meet robust and computing performance requirements for PLC and Industrial PC's
- SoftLogic support in Win CE 5.0
- Can be operated with or without display/keyboard/mouse
 - Remote monitoring through Web Server and Email Alarm
- Remote maintenance via FTP Server
- Supports Modbus/RTU Master and Modbus/TCP (Server/Client) Protocol
- Supports OPC Server
- Supports SQL database
- Supports SD Storage I/O Module
- Supports AMONet Master Module
- Supports Motion Control Modules
- Deterministic I/O at 1 ms
- Remote I/O expansibility
- Rich support to ADAM-5000 I/O Modules

Introduction

ADAM-5550KW is a Programmable Automation Controller designed for control tasks which require Industrial PC computing performance with the PLC's robustness. ADAM-5550KW offers an AMD Geode GX533 CPU along with control specific features such as watchdog timer, battery backup RAM and deterministic I/O. ADAM-5550KW features 5 standard IEC61131-3 programming languages in CE 5.0, so PLC users can develop control strategies with their own familiar programming languages. The powerful Multiprog KW Software and stable ProConOS have allowed ADAM-5550KW to become the best choice for a Programmable Automation Controller on the market today. With the optional HMI Software and built-in VGA port, no longer will users be required to build up additional SCADA PC's in their applications. This compact and powerful PAC is ideal for a variety of applications ranging from machine automation to SCADA applications.

Specifications

Control System

- CPU
- I/O Capacity
- LED Indicators
- Memory
- Operating System
- Real-time Clock
- Watchdog Timer

Communications

- Comm. Protocol
- Medium

Protection

- Communication
- Power Reversal Protection

Power

- Power Consumption
- Power Input
- 12 W @ 24 Vdc (not including I/O modules) Unregulated +10 to +30 V_{DC}

General

 Certificate CE
 Connectors 1 x RS-232/485 (COM1) 1 x RS-485 (COM2) 1 x RS-232 (COM3) 1 x RS-232 (COM3) 2 X USB 1.1 ports (KB/Mouse via USB Ports) 1 x VGA (1024 X 768 Resolution)
 Dimensions 355 x 110 x 75 mm
 Enclosure ABS+PC
 Plug-in Screw Terminal Accepts 0.5 mm² to 2.5 mm², 1 - #12 or 2 - #14 to #22 AWG

Environment

• Humidity 5% to 95%, non-condensing

- Operating Temperature 0 ~ 50° C (32 ~ 122° F)
- Storage Temperature $-25 \sim 85^{\circ}$ C (-13 $\sim 185^{\circ}$ F)

Ordering Information

ADAM-5550KW 8-slot Programmable Automation Controller with KW
 ADAM-5550KWAS 8-slot Programmable Automation Controller with KW &

AS1500-CR60

- MPROG-BAS33 KW Multiprog Softlogic Development Kit Basic Edition v3.3 for Windows NT/2000/XP (128-byte I/0)
- MPROG-ADV33 KW Multiprog Softlogic Development Kit Advanced Edition v3.3 for Windows NT/2000/XP (64k-byte I/0)



PAC Features

ADAM-5550KW is designed for control tasks which need Industrial PC's computing performance and PLC's robustness. Its multiple functionalities include descrete, analog and motion functions. The well-integrated programming tool and optional HMI software provide a flexible and easy-to-use software solution for versatile applications. ADAM-5550KW supports Modbus protocol which allows data exchange with various Modbus devices.

SoftLogic Support in CE 5.0

ADAM-5550KW supports IEC-61131-3 programming in WinCE 5.0. The five programming languages of Ladder Diagram, Function Block, Sequential Function Chart, Structured Text and Instruction List cover most of the PLC programming languages in the market. The reliable ProConOS runtime engine and powerful MULTIPROG software from KW-Software empower ADAM-5550KW as the best solution of Programmable Automation Controller.

Visualization

ADAM-5550KW has a built-in VGA port which can directly connect to a display. So HMI function can be integrated into this controller. ADAM-5550KW can be operated with or without display/keyboard/mouse which can meet different requirements of applications.

Widely Used IT Technology

ADAM-5550KW supports widely used IT technology of industrial PC. For remote monitoring function, the built-in web server can provide local I/O status for internet access and email alarm function can send alarm message to dedicated email addresses when there is any alarm occurs. For remote maintanance function, the buit-in FTP server provides service for uploading application program or downloading data logging files.

Dual Ethernet Ports

ADAM-5550KW provides two ethernet ports for different application requirements such as redundant ethernet connetion for reliability concern or separated network connections for security concern. Both of the functions are possible to be implemented by customer's application program.

Deterministic I/O

ADAM-5550KW can guarantee deterministic I/O at 1 ms. This feature guarantees control and response speed at I/O level so HMI software or operations of other application programs cannot affect the I/O control performance.

Remote I/O Expansibility

ADAM-5550KW supports not only Modbus/RTU Master function via serial ports, but also the Modbus/TCP Client to retrieve data from remote I/O, and Modbus/TCP Server to exchange data with other Modbus devices via Ethernet port. This Modbus feature is very useful when the control system needs expand the remote I/O modules or connect to other controllers.

Rich Support to ADAM-5000 I/O Modules

Most of the ADAM-5000 I/O modules are supported by ADAM-5550KW including analog I/O modules, digital I/O modules, and motion control module. All the operations of supported modules are the same with the operations of ADAM-5510KW series.

AMONet Motion Control Modules

AMONet Module supports two RS-485 master ports, and transfers data between host and slaves directly without any operations in between. Each port of the master can control up to 2048 I/O points, 64 axes, or a combination of I/O points and axes for motion control. The master ports support up to 20 Mbps transfer rate and a maximum communication USB 1/0 distance of up to 100 meters. The communication between master and slave is based on a customized RS-485 solution that saves wires, covers a long distance, supports high-speed communication and has time-deterministic features. Various functions can be chosen on the slave modules, and standard industrial DIN rail mounting design makes it easy to distribute them in the field.

Motion Control Modules

ADAM-5550KW supports two types of motion control modules. One is a stepping/pulsetype servo motor control module, designed for general-purpose applications, and the other is the cost-effective intelligent stepping motor control module. The servo motor control module's intelligent NOVAR MCX314-motion ASIC comes built-in with a variety of motion control functions, such as 2/3-axis linear interpolation, 2-axis circular interpolation, T/Scurve acceleration/deceleration rate and more. It performs these motion control functions without processor loading during driving. The intelligent stepping motor control module's PCD-4541 motion controller can execute a variety of motion-control commands. Each axis can be controlled directly through the card's I/O registers.

ADAM-5550KW

Courtesy of Steven Engineering, Inc.-230 Ryan Way, South San Francisco, CA 94080-6370-Main Office: (650) 588-9200-Outside Local Area: (800) 258-9200-www.stevenengineering.com Online Download www.advantech.com/products

ADAM-5510KW ADAM-5510EKW

4-slot PC-based SoftLogic Controller

8-slot PC-based SoftLogic Controller



Features

- IEC-61131-3 standard package
- Supports LD/FB/SFC/IL/ST language
- Graphical programming interface
- Cross programming language compiling capability
- Supports floating point calculation
- Supports AI/AO/DI/DO/Counter Function Blocks
- Powerful debug tool
- Built-in Modbus/RTU Master and Slave
- Supports up to 128 Local I/O Points
- Handles typical 32 Modbus/RTU remote I/O modules
- Supports more than 9000 coils in LD language
- Supports 3 serial ports including 1 RS-485 and 2 RS-232/485 ports

Introduction

ADAM-5510EKW and ADAM-5510KW are PC-based Soft-Logic Controllers. They feature 5 standard IEC61131-3 programming languages so PLC users can develop control strategies in their familiar programming languages. The strong MULTIPROG software and stable ProConOS make ADAM-5510EKW and ADAM-5510KW the best choice for PC-based Soft-logic controllers in the market.

ProConOS, (Programmable Controller Operating System), has over 250,000+ installations, and is a pre-emptive, multi-tasking run-time software providing deterministic operation down to one millisecond and runs applications developed with MULTIPROG, a fully-featured IEC 61131-3 development environment. With this KW Software distribution agreement, Advantech has bundled the ProConOS run-time software on ADAM-5510EKW and ADAM-5510KW Controllers creating a SoftLogic Solution. It will greatly benefit PLC users to enjoy the PC- based advantage of ADAM-5510EKW and ADAM-5510KW

Different from the original ADAM-5510 hardware, the ADAM-5510EKW and ADAM-5510KW includes more memory to raise system efficiency and users' programming flexibility. The main unit of ADAM-5510EKW and ADAM-5510KW include a 1.5 MB flash memory and 640 KB SRAM which includes battery backup RAM up to 32 KB. In addition, 4 COM ports enrich the communication capacity of ADAM-5510EKW and ADAM-5510KW to integrate with remote I/O or other 3rd party devices based on the Modbus/RTU protocol.

For advanced system integration, the ADAM-5510EKW and ADAM-5510KW are built with a Modbus/RTU Server. Therefore, it also supports Modbus/RTU protocol to communicate with any Modbus® devices as well as HMI Software/User's APs built with Modbus driver or Modbus/RTU OPC Server, both of which are included in the SCADA systems.

Specifications

Control System

- CPU

16-bit microprocessor 4 slots (ADAM-5510KW) I/O Capacity 8 slots (ADAM-5510EKW) LED Indicators Power, CPU, communication and battery Flash disk: 512 KB Memory Flash memory: 768 KB Flash ROM: 256 KB RAM: 640 KB SRAM, 32 KB with battery backup Operating System **ROM-DOS** Real-time Clock Yes Yes

Modbus/RTU

RS-485 (2-wire)

Watchdog Timer

Communications

- Comm. Protocol
- Max. Nodes
- Medium
- Transmission Distance 1.2 km (4000 feet)
- Transmission Speed 9600, 19200 and 38400 bps

Protection

- Power Input
- Communication
- Power Reversal Protection
- 3000 V_{DC} 2500 V_DC (COM2 only) Yes

Power

Power Consumption 4 W @ 24 Vdc (not including I/O modules) Power Input Unregulated 10 ~ 30 V_{DC} General Certifications CF Connectors ADAM-5510KW: 1 x DB9-M for RS-232 (COM1) ADAM-5510EKW: 1 x DB9-M for RS-232/485 (COM1) 1 x Screw terminal for RS-485 (COM2) 1 x DB9-F for RS-232/Programming (COM3) 1 x DB9-M for RS-232/485 (COM4) 1 x Screw-terminal for power input Dimensions 4-slot: 231 x 110 x 75 mm 8-slot: 355 x 110 x 75 mm ABS+PC Enclosure DIN 35 rail, stack, wall Mounting

Environment

- Humidity 5~95%, non-condensing
 - Operating Temperature -10 ~ 70° C (14 ~ 158° F)
 - **Storage Temperature** 25 ~ 85° C (-13 ~ 185° F)

Ordering Information

- ADAM-5510KW PC-based SoftLogic Controller 8-slot PC-based SoftLogic Controller ADAM-5510EKW
- **MPROG-BAS 33** KW Multiprog Softlogic Development Kit Basic Edition
 - v3.3 for Windows® NT/2000/XP (128-byte I/O)

32 (in RS-485 daisy-chain network)

ADAM-5510EKW/TP enabled SoftLogic Controller

8-slot Ethernet-

PAC & Software



Features

- 10/100Base-T Ethernet interface
- Built-in Modbus/TCP server
- Supports Modbus/TCP client
- Supports Modbus/RTU Master
- Supports Modbus/RTU Slave
- Supports Multiprog via Ethernet
- IEC-61131-3 standard package •
- Supports LD/FB/SFC/IL/ST Languages
- Cross-Language compiling program
- 8 I/O slots base and handles up to 128 Local I/O Points
- Supports AI/AO/DI/DO/Counter Function Blocks

Introduction

The ADAM-5510EKW/TP is an Ethernet-enabled SoftLogic Controller. In addition to the features of ADAM-5510KW and ADAM-5510EKW, the ADAM-5510EKW/TP has Ethernet features including Modbus/TCP Server, Modbus/TCP Client and Multiprog via Ethernet functions. Therefore, users can easily and quickly complete their programming based on Ethernet architecture.

C€ FCC

Standard Modbus Interface

For advanced system integration, the ADAM-5510EKW/TP supports not only Modbus/RTU Master and Slave functions via serial ports, but also the Modbus/TCP Client to retrieve data from remote I/O, and Modbus/TCP Server to send data back to the HMI/SCADA Software via Ethernet port. Furthermore, the ADAM-5510EKW/TP allows users to remotely maintain multiple ADAM-5510EKW/TP controllers by running Multiprog programming software via Ethernet.

Specifications

Control System

- CPU

16-bit microprocessor 8 slots

ROM-DOS

Yes

Yes

- LED Indicators
- Memory

I/O Capacity

Power, CPU, communication, and battery Flash disk: 512 KB Flash memory: 768 KB

Cat.5 cable with RJ-45 connectors

100 Mbps (10/100Base-T)

- Flash ROM: 256 KB RAM: 640 KB SRAM, 17 KB with battery backup
- Operating System
- Real-time Clock
- Watchdog Timer

Communications (Ethernet)

Medium

Transmission Speed

Communications (Serial)

 Max. Nodes 32 (in RS-485 daisy-chain network) RS-485 (2-wire)

3000 Vnc

Yes

2500 V_{DC} (COM2 only)

- Medium
- Protocols Modbus/RTU, Modbus/TCP Transmission Speed 9600, 19200 and 38400 bps
- Protection
- Power Input
- **Communication Line** Isolation
- Power Reversal Protection

Power

Power Consumption

Power Input

- General
- Certifications Connectors

- Dimensions Enclosure
- Mounting
- Environment
- Humidity 5~95%, non-condensing
- Operating Temperature 10 ~ 70° C (14 ~ 158° F)
- Storage Temperature 25 ~ 85° C (-13 ~ 185° F)

Ordering Information

- ADAM-5510EKW/TP
- MPROG-BAS33
- 8-slot Ethernet-enabled SoftLogic Controller KW Multiprog SoftLogic Development Kit Basic Edition v3.3 for Windows® NT/2000/XP (128-byte I/O)

4 W @ 24 Vdc (not including I/O modules)

1 x DB9-M for RS-232/485 (COM1)

1 x DB9-M for RS-232/485 (COM4)

1 x Screw-terminal for power input

1 x Screw terminal for RS-485 (COM2)

1 x DB9-F for RS-232/Programming (COM3)

Unregulated 10 ~ 30 V

CE, FCC class A

1 x RJ-45 for LAN

355 x 110 x 75 mm

DIN 35 rail, stack, wall

ABS+PC

Unregulated 10 ~ 30 V_{DC}



ADAM-5000 Series



Open Network and Fieldbus Solutions for Device Networking



]-]8 Courtesy of Stever

Introduction

The Fieldbus concept will change the control environment and device characteristics of future control systems in both processing and manufacturing. Compared with traditional systems, the Fieldbus system reduces cost of cabling, commissioning, and installation. In addition, the Fieldbus system has greater reliability.

The ADAM-5000 series, a compact distributed data acquisition and control system, supports the shift toward Fieldbus-based systems. Based on popular Fieldbus data communication structures such as RS-485 and Modbus, the ADAM-5000 series now offers two different DA&C systems that allow field I/O devices to easily connect to PC network applications: the ADAM-5000 DA&C systems and the ADAM-5510 series of PC-based programmable stand-alone controllers.



ADAM-5000 Series -Distributed I/O System

Ethernet-based Data Acquisition and Control System

With the ADAM-5000/TCP as your Ethernet I/O data processing center, you can monitor and control field signals at a speed of 10/100 Mbps. The best field-proven communication performance that can be reached in industrial network environments. Additionally, the popular Modbus/TCP protocol is supported as well.

RS-485 based Data Acquisition and Control System

The ADAM-5000/485 system is a data acquisition and control system that can acquire, monitor and control data through multi-channel I/O modules. It communicates with a network master over a twisted-pair, multi-drop RS-485 network. Both ADAM ASCII and Modbus/RTU protocols are supported.

ADAM-5510 Series -PC-based Programmable Controller

Ethernet-Enabled Programmable Controller

The ADAM-5510 series of PC-based programmable controllers includes ADAM-5510M, ADAM-5510E, ADAM-5510/TCP and ADAM-5510E/TCP. They feature Intel x86-based CPUs running Datalight ROM-DOS.

Users can use Borland C 3.0 to develop the application program and then download it by Windows-based ADAM-5510 series utility. The Ethernet-enabled feature of ADAM-5510/TCP and ADAM-5510E/TCP enables features like:FTP server, web server, TCP/UDP connections and email alarm. The ADAM-5510 controllers also have high expansion capability by supporting Modbus/RTU master/ slave and Modbus/TCP client/server functions.

Distributed Data Acquisition and Control Systems

Maximum System Design Flexibility

The ADAM-5000's modular design allows users to tailor solutions based on their own requirements. Built-in programmable I/O ranges and alarm outputs enhance flexibility in system design. A variety of communication media such as twisted-pair wiring, radio modems and fiber optics are supported.

System Maintenance and Troubleshooting

The ADAM-5000 series uses hardware self-test and software diagnosis to monitor system problems. Also included is a watchdog timer that monitors the microprocessor. If the system crashes, the watchdog automatically resets the system. Node ID setting is easily accomplished by setting a DIP switch on the front of the system.

Easy Installation and Networking

The ADAM-5000 series can be easily mounted on a DIN-rail or on a panel. Signal connections, network modifications and maintenance are simple and quick. Building a multi-drop network only requires a single twisted pair of wires.

Proven for Industrial Environments

The ADAM-5000 series can operate in industrial environments at temperatures between -10 and 70° C, and can use unregulated power sources between 10 and 30 V_{pc}. These units are protected against accidental power supply reversals. A 3-way isolation design (I/O, power & communication) prevents ground loops and reduces the effect of electrical noise in the system.

Extensive Software Support

The ADAM-5000 series is supported by most standard process controls and HMI software. .NET Class LIB is provided for use with Windows applications. OPC drivers provide links to a wide range of HMI/SCADA software packages such as InTouch, FIX and ICONICS. Advantech data acquisition software and Advantech Studio SCADA/ HMI software are both tightly integrated with the ADAM-5000 systems.



DIN-rail Mounting Installed with industrial standard DIN-rails



Panel/Wall Mounting

Flat surface system mounting

PAC & Software







Connection Pre-wired plug-in terminals with I/O modules



ADAM-5510/TCP ADAM-5510E/TCP

4-slot Ethernet-enabled **Programmable Controller**

8-slot Ethernet-enabled **Programmable Controller**



Features

- 10/100Base-T Ethernet interface
- Supports Web Server function
- Supports Email Alarm function
- Supports FTP Server and Client functions
- Supports Modbus/TCP Server and Client function libraries
- Supports Modbus/RTU Master and Slave function libraries
- 1.5 MB Flash ROM (960 KB for user applications)
- 640 KB SRAM (384 KB for battery backup)
- ROM-DOS operating system
- · Watchdog timer and real-time clock
- 4 serial communication ports
- 4 or 8 I/O slot expansion

Introduction

In the ADAM-5510 series of PC-based programmable controllers, Advantech has introduced Ethernet-enabled features. The new 4-slot ADAM-5510/TCP and 8-slot ADAM-5510E/TCP support HTTP server, FTP server, and e-mail alarm functions. These functions can be used to monitor a system via the Internet, acquire data through an FTP connection and send alarms to designated e-mail addresses if a critical situation emerges. Both products also support Modbus/TCP server/client functions. The ADAM-5510/TCP and ADAM-5510E/TCP can work as a Modbus/TCP client to retrieve data from remote I/Os, and Modbus/TCP server to connect with the HMI/SCADA software.

Specifications

Control System

-	CPU	16-bit processor	
•	I/O Slots	ADAM-5510/TCP: 4	
		ADAM-5510E/TCP: 8	
•	LED Indicators	Power, CPU, communications, and battery	
•	Memory	Flash disk: 1 MB (960 KB for user applications)	
		Flash memory: 256 KB	
		Flash ROM: 256 KB	
		RAM: 640 KB SRAM (384 KB for battery backup RAM)	
•	Operating System	ROM-DOS	
•	Real-time Clock	Yes	
•	Watchdog Timer	Yes	
•	Communications (Eth	nernet)	
•	LAN	10/100Base-T	
•	Transmission Distance	100 m	
•	 Communications (Serial) 		
•	Max. Nodes	256 (in RS-485 daisy-chain network)	
•	Transmission Distance	1.2 km (4000 feet)	
•	Transmission Speed	1200 bps ~ 115.2 kbps	
_			
Protection			
•	Communication Line Isolation	2500 V _{DC} (COM2 only)	
•	Communication Power Isolation	3000 V _{DC}	
•	I/O Module Isolation	$3000 \ V_{\text{dc}}$	
S	oftware		
•	C Library	Borland C++ 3.0 for DOS	

Power

Power Consumption 4 W @ 24 Vdc (not including I/O modules) Unregulated 10 ~ 30 V Power Input Unregulated 10 ~ 30 V_{nc} General Certifications CE, FCC class A ADAM-5510/TCP: 1 x DB9-M for RS-232 (COM1) Connectors ADAM-5510E/TCP: 1 x DB9-M for RS-232/485 (COM1) 1 x Screw terminal for RS-485 (COM2) 1 x DB9-F for RS-232/Programming (COM3) 1 x DB9-M for RS-232/485 (COM4) 1 x Screw-terminal for power input 1 x RJ-45 for LAN Dimensions 4-slot: 231 x 110 x 75 mm 8-slot: 355 x 110 x 75 mm Enclosure ABS+PC

DIN 35 rail, stack, wall

Mounting

Environment

- Humidity 5~95%, noncondensing
- Operating Temperature -10 ~ 70° C (14 ~ 158° F)
- Storing Temperature -25 ~ 85° C (-13 ~ 185° F)

Ordering Information

- ADAM-5510/TCP ADAM-5510E/TCP
- 4-slot Ethernet-enabled Programmable Controller 8-slot Ethernet-enabled Programmable Controller
- 20 AD\ANTECH Programmable Automation Controllers & Software Courtesy of Steven Engineering, Inc.-230 Ryan Way, South San Francisco, CA 94080-6370-Main Office: (650) 588-9200-Outside Local Area: (800) 258-9200-www.stevenengineering.com

ADAM-5510/TCP ADAM-5510E/TCP



Feature Details

Supports Powerful Ethernet Features

ADAM-5510/TCP and ADAM-5510E/TCP are Ethernet-enabled Programmable Controllers. The new 4-slot ADAM-5510/TCP and 8-slot ADAM-5510E/TCP support HTTP server, FTP server, and e-mail alarm functions. These functions can be used to monitor a system via the Internet, acquire data through an FTP connection and send alarms to designated e-mail addresses if a critical situation emerges.

Enable Ethernet Connectivity with Other Devices

ADAM-5510/TCP and ADAM-5510E/TCP support both Modbus/TCP Server function library and Modbus/TCP Client function library. The ADAM-5510/TCP and ADAM-5510E/TCP can work as a Modbus/TCP client to retrieve data from remote I/O modules, and Modbus/TCP server to connect with the HMI/SCADA software.

More Data Memory & I/O Slots to Support Versatile Applications

The ADAM-5510/TCP and ADAM-5510E/TCP offer more than enough spare memory for developing complex logic or data storage applications, such as data recording, which is difficult for traditional controllers. The ADAM-5510/TCP and ADAM-5510E/TCP feature 1.5 MB flash memory and 640 KB SRAM (up to 384 KB battery backup memory). ADAM-5510/TCP and ADAM-5510E/TCP also support up to 4 or 8 I/O slots for I/O modules, which can provide more flexibility and I/O points for user's applications.

Complete I/O Module and C Library Support

The ADAM-5510/TCP and ADAM-5510E/TCP support industrial I/O modules including digital I/O, analog I/O, counter and special purpose I/O modules such as Thermocouple and RTD. It also offers well-stocked Borland C libraries, including system resources function, I/O functions, communication functions, socket functions, Modbus/TCP functions, Modbus/RTU functions and the functions of Ethernet features. All the functions have sample programs which can save development time and efforts.

Supports Four Communication Ports

The ADAM-5510/TCP and ADAM-5510E/TCP has four independent communication ports. That means they can simultaneously communicate with one RS-232/485 device (COM1), one RS-485 device (COM2), one RS-232 3-wire device (COM3), and one RS-232/485 device (COM4). They also support Modbus/RTU master function library for connecting Modbus remote I/O modules and Modbus/RTU slave function library for connecting to HMI/SCADA software.

Multiple RS-232 Port Support

The ADAM-5090 is a 4-port RS-232 module that is equipped with 4 RS-232 ports, which make it especially suitable for bi-direction communication. It can simultaneously read/write data from other third-party devices such as barcode readers or PLCs, as long as they have an RS-232 interface. Furthermore, commands can be issued through the ADAM-5090 to control other devices. It is fully integrated with the ADAM-5510/TCP and ADAM-5510E/TCP, and transmits data through RS-232 ports. The whole integrated system supports Modbus/RTU master function, which can connect and issue commands to control Modbus remote I/O devices by Modbus/RTU protocol.



ADAM-5510M ADAM-5510E

4-slot PC-based Programmable Controller

8-slot PC-based Programmable Controller



Features

- Supports Modbus/RTU Master and Slave function libraries
- Windows-based Utility
- Control Flexibility with C Programming
- Complete Set of I/O Modules
- Built-in 1.5 MB Flash and 640 KB SRAM
- Built-in Real-Time Clock and Watchdog Timer
- ROM-DOS operating system
- 4 serial communication ports
- 4 or 8 I/O slot expansion

Introduction

The ADAM-5510M AND ADAM-5510E are ideal for PC-based data acquisition and control applications. They are compact, controllers with an Intel x86- based CPU running Datalight ROM-DOS. Built-in battery backup SRAM is the best choice for complex logic or data storage applications. For professional C/C++ programmers, the ADAM-5510M AND ADAM-5510E application programs may be written and compiled in Borland C++ 3.0, and downloaded to the ADAM-5510M AND ADAM-5510E. With the power of the ADAM-5510M AND ADAM-5510E, users can easily accomplish specialized functions, which are difficult with traditional controllers. Each ADAM-5510M AND ADAM-5510E system can handle up to 4 or 8 I/O slots (up to 64 or 128 I/O points).

Specifications

Control System

•	CPU I/O Slots	16-bit microprocessor ADAM-5510E: 8 ADAM-5510M: 4
•	LED Indicators Memory Operating System Real-time Clock Watchdog Timer	Power, CPU, communications and battery Flash disk: 1 MB (960 KB for user applications) Flash memory: 256 KB Flash ROM: 256 KB RAM: 640 KB (up to 384 KB with battery backup) ROM-DOS (MS-DOS 6.22 Compatible) Yes Yes
C - -	ommunications Max. Nodes Transmission Distance Transmission Speed	E 256 (in RS-485 daisy-chain network) 1.2 km (4000 feet) 1200 bps ~ 115.2 kbps
P	ower	
•	Power Consumption	4 W @ 24 Vdc (not including I/O modules) Unregulated 10 ~ 30 V
•	Power Input	Unregulated 10 ~ 30 V _{DC}
S •	oftware Support C Library	Borland C++ 3.0 for DOS
P	rotection	
•	Communication Power Isolation	3000 V _{DC}
•	Communication Line Isolation	2500 V_{DC} (COM2 only)

General

•	Certifications	CE
•	Connectors	ADAM-5510E: 1 x DB9-M for RS-232/485 (COM1) ADAM-5510M: 1 x DB9-M for RS-232 (COM1) 1 x Screw terminal for RS-485 (COM2) 1 x DB9-F for RS-232/Programming (COM3) 1 x DB9-M for RS-232/485 (COM4) 1 x Screw-terminal for power input
•	Dimensions	4-slot: 231 x 110 x 75 mm 8-slot: 355 x 110 x 75 mm
•	Enclosure Mounting	ABS+PC DIN 35 rail, stack, wall

Environment

Humidity 5 ~ 95%, non-condensing

- Operating Temperature -10 ~ 70° C (14 ~ 158° F)
- Storing Temperature -25 ~ 85° C (-13 ~ 185° F)

Ordering Information

- ADAM-5510M
 ADAM-5510E
- 4-slot PC-based Programmable Controller 8-slot PC-based Programmable Controller

Isolation Power Reversal Protection

Yes

L-22 AD Courtesy of Steven Eng

ADAM-5510M ADAM-5510E



Why PC-based Control?

Today, more and more major manufacturers are gaining a competitive edge by replacing their factory floor PLC "black boxes" and utilizing the latest advances in automation control technology. One of the major drawbacks of the PLC is its proprietary nature. Not only is the PLC proprietary, but so is everything associated with it – the hardware, the operating system, the programming methods, the networks, the processors, the I/O, and more. Once you have selected a PLC supplier, you are essentially locked into their product line. This exclusivity limits how far you can expand your operations – and expand your business

– since you can only grow as far as your supplier's technology will let you. On the other hand, PC-based controllers are designed as an open structure with advanced capabilities for computing, communication and controlling. There will be no more limitation to user's further integration and expansion.

ADAM-5510M AND ADAM-5510E PC-based "C" Programmable Controller

The design of the ADAM-5510M and ADAM-5510E are based on the experience of various needs in industrial control. The ADAM-5510M and ADAM-5510E adopt a popular RS-485 bus, which can work either as a standalone unit or within a distributed control system. The user only needs to write a program in C to run on the ADAM-5510M and ADAM-5510E for a general-purpose application.

Windows-based Utility for Configuring I/O Modules and Downloading Control Program

The ADAM-5510M and ADAM-5510E utility is fully-Windows based so users can configure the I/O modules and download control program under Windows environment easily. In order to provide a convenience operation environment for former users, the Windows Utility keeps the DOS mode operation interface too.

More Data Memory and I/O Slots to Support Versatile Applications

The ADAM-5510M and ADAM-5510E offer plenty of spare memory for developing complex logic or data storage applications, such as data recording, which is difficult for traditional controllers. The ADAM-5510M and ADAM-5510E features 1.5 MB flash memory and 640 KB SRAM (up to 384 KB battery backup memory). ADAM-5510M and ADAM-5510E also support up to 4 or 8 I/O slots for I/O modules, which can provide more flexibility and I/O points for user's applications.

Supports 4 Serial Ports with Modbus/RTU Master and Slave Function Libraries

The ADAM-5510M and ADAM-5510E has four independent communication ports. That means they can simultaneously communicate with one RS-232/485 device (COM1), one RS-485 device (COM2), one RS-232 3-wire device (COM3), and one RS-232/485 device (COM4). They also support Modbus/RTU master function library for connecting Modbus remote I/O modules and Modbus/RTU slave function library for connecting to HMI/SCADA software.

Complete I/O Module and C Library Support

The ADAM-5510M and ADAM-5510E support industrial I/O modules including digital I/O, analog I/O, counter and special purpose I/O modules such as Thermocouple and RTD. It also offers well-stocked Borland C libraries, including system resources function, I/O functions, communication functions and Modbus/RTU functions. All the functions have sample programs which can save the developing time and efforts.

Multiple RS-232 Port Support

The ADAM-5090 is a 4-port RS-232 module that is equipped with 4 RS-232 ports, which make it especially suitable for bi-direction communication. It can simultaneously read/write data from other third-party devices such as barcode readers or PLCs, as long as they have an RS-232 interface. Furthermore, commands can be issued through the ADAM-5090 to control other devices. It is fully integrated with the ADAM-5510M and ADAM-5510E, and transmits data through RS-232 ports. The whole integrated system supports Modbus/RTU master function, which can connect and issue commands to control Modbus remote I/O devices by Modbus/RTU protocol.

ADAM-5000L/TCP 4-slot Ethernet-based Distributed DA&C System ADAM-5000/TCP

8-slot Ethernet-based Distributed DA&C System



Features

- ARM 32-bit RISC CPU
- 10/100Base-T auto-negotiation high-speed communication port
- Supports Modbus/TCP for easy integration
- Supports UDP event handling function
- Up to 100 m communication distance w/o repeater Allows remote configuration via Ethernet
- Allows concurrent access for 8 host PCs
- 4 I/O slots for up to 64 points and 8 I/O slots for up to 128 points data monitoring and control
- 1500 V_{DC} isolation for Ethernet communication
 - Built-in watchdog timer for system auto-reset
- Windows utility
- I/O modules configuration and calibration - Network auto searching
- Data stream setting
- Current status monitoring and alarm trigger
- Provides .NET Class LIB to develop applications

Introduction

ADAM-5000L/TCP and ADAM-5000/TCP care both Ethernet-based I/O systems. Without a repeater, ADAM-5000L/TCP and ADAM-5000/TCP can cover a communication distance up to 100 m. This allows remote configuration via Ethernet and eight PCs can simultaneously access the data. The ADAM-5000L/TCP and ADAM-5000/TCP are the solutions for easy configuration and efficient management. An ideal and cost-effective solution for eAutomation architecture.

Specifications

Control System

I/0 \$	Slots
--------	-------

ADAM-5000L/TCP: 4 ADAM-5000/TCP: 8 Flash ROM: 512 KB Memory RAM: 4 MB Real-time OS Operating System LED Indicators Power (3.3 V, 5 V) CPU Communication (Link, Active, 10/100 Mbps, Tx, Rx) Battery

32-bit ARM RISC

Communications (Ethernet)

- Comm. Distance 100 meters w/o repeater
- Comm. Protocol Modbus/TCP, TCP, UDP, IP, ARP Up to 100 Mbps
- Data Transfer Rate
- Event Response Time < 5 ms
- Interface 1 x 10/100Base-T (RJ-45) UTP, category 5 or greater
- Wiring

Communications (Serial)

 Comm. Distance RS-485: 1.2 km (4000 feet) RS-232: 15 m Comm. Protocol Modbus/RTU Up to 115.2 kbps Data Transfer Rate Interface 1 x DB9-M for RS-485 1 x DB9-F for RS-485 1 x DB9-F for RS-232 Max. Nodes 12 (in RS-485 daisy-chain network for Remote I/O connection)

Power

Power Consumption 4.0 W @ 24 Vdc (ADAM-5000L/TCP) (not including I/O modules) 5.0 W @ 24 Vdc (ADAM-5000/TCP) (not including I/O modules)

Power Input

Unregulated 10 ~ 30 V_{pc}

Network setting, I/O configuration & calibration, data

Software

- .NET Class LIB
- Windows Utility
- stream, alarm setting Modbus/TCP OPC Server

Protection

- Communication Line 3000 Vpc Isolation
- I/O Module Isolation 3000 V_{DC}
- LAN Communication 1500 V_{DC}
- **Overvoltage Protection** Yes
- Power Reversal Yes
- Protection

General

- Certifications CE. FCC class A
- Connectors 1 x DB9-M/DB9-F/screw terminal for RS-485 (communication) 1 x DB9-F for RS-232 (internal use)
 - 1 x Screw-terminal for power input 1 x RJ-45 for LAN
- Dimensions (W x H x D) ADAM-5000L/TPC: 231 x 110 x 75 mm

ABS+PC

- ADAM-5000/TCP: 355 x 110 x 75 mm
- Enclosure
- Mounting DIN 35 rail, wall

Environment

- Humidity 5~95%, non-condensing
- **Operating Temperature** 10 ~ 70° C (14 ~ 158° F)
- **Storage Temperature** 25 ~ 85° C (-13 ~ 185° F)

Ordering Information

- ADAM-5000L/TCP
 - ADAM-5000/TCP
- 4-slot Ethernet-based Distributed DA&C System 8-slot Ethernet-based Distributed DA&C System
- Programmable Automation Controllers & Software 230 Ryan Way, South San Francisco, CA 94080-6370-Main Office: (650) 588-9200-Outside Local Area: (800) 258-9200-www.stevenengineering.com Courtesy of Steven End **ADVANTECH**

ADAM-5000L/TCP ADAM-5000/TCP



Feature Details

Communication Network

With a 32-bit RISC CPU, ADAM-5000/TCP and ADAM-5000L/TCP greatly enhances data processing performance and ability, especially in network communication. There is a standard RJ-45 modular jack Ethernet port on the ADAM-5000/TCP and ADAM-5000L/TCP's CPU board, and the field I/O modules are able to link to an Ethernet network directly without any other converter or data gateway. The communication speed can be auto-switched between 10 Mbps and 100 Mbps data transfer rates, depending on the network environment. In addition, ADAM-5000/TCP and ADAM-5000L/TCP can be used as an Ethernet data gateway. It provides an RS-485 interface to integrate serial devices supporting the Modbus/RTU protocol.

Modbus/TCP Protocol

Modbus/TCP is one of the most popular standards used for industrial Ethernet networks. Using this communication protocol, ADAM-5000/TCP and ADAM-5000L/TCP is easy to integrate with any HMI software packages or user-developed applications which support Modbus. Users do not have to prepare a specific driver for the ADAM-5000/TCP and ADAM-5000L/TCP when they install the DA&C system with their own operating application. It reduces required engineering efforts. Moreover, ADAM-5000/TCP and ADAM-5000L/TCP works as a Modbus data server as well. It allows eight PCs or tasks to access its current data simultaneously, no matter if they connect from LAN, an intranet, or the Internet.

Hardware Capacity & Diagnostics

ADAM-5000/TCP and ADAM-5000L/TCP is designed with high I/O capacity and supports all types of ADAM-5000 I/O modules. Providing 8/4 slots for any mixed modules, this DA&C system handles up to 8/4 modules, providing 128/64 I/O points points (only four ADAM-5024s allowed). Different from other main units, the ADAM-5000/TCP and ADAM-5000L/TCP has not only higher I/O capacity, but also smarter diagnostics ability. There are eight indicators on the front case of the CPU module. Users can read the system status clearly, which includes power, CPU, Ethernet link, communication active, communication rate, etc. In addition, there are also Tx and Rx LEDs on the Ethernet port, indicating data sending and receiving.

Event Handling & Data Streaming

Though TCP/IP is the standard communication protocol for Ethernet, data transmission management is still a bottleneck when many clients are on the network at the same time. Therefore, the ADAM-5000/TCP and ADAM-5000L/TCP also supports the UDP protocol to deal with regular data stream broadcasting and event/alarm triggering. These functions will upgrade your system with intelligence and performance.

Isolated Communication

High speed transient suppressors isolate the ADAM-5000/TCP and ADAM-5000L/TCP Ethernet port from dangerous voltage up to 1500 $V_{\mbox{\tiny DC}}$ power spikes and avoid surge damage to the whole system.



1-25 renengineering.com

ADAM-5000/485 **ADAM-5000E**

4-slot Distributed DA&C System for RS-485 Networks

8-slot Distributed DA&C System for RS-485 Networks



16-bit 80188 microprocessor

Power, CPU, communications

Asynchronous. 1 start bit, 8 data bits, 1 stop bit, no

Programming link: RS-232 (3-wire: TX, RX, GND)

Communication error checking with checksum

1.2, 2.4, 4.8, 9.6, 19.2, 38.4, 57.6, and 115.2

Communication: RS-485 (2-wire)

128 (in RS-485 daisy-chain network)

ADAM-5000/485: 4

ADAM-5000E: 8

1.6 sec. (System)

Features

- RS-485 Communication for easy installation and networking
- 4 or 8 slots for up to 128 points data monitoning card control in one module
- Extensive Software support, inclucles windows DLL drivers, OCX drivers, OPC server and popular HMI/SCADA software drivers
- Seamlessly integrated with easy-to-use ADAMView data acquisition software
- Supports ADAM ASCII protocol or Modbus®/RTU protocol
- Supports Modbus/RTU protocol with user-defined Modbus address

Introduction

The ADAM-5000/485 and ADAM-5000E systems conform to the EIA RS-485 communication standard. This is the industry's most widely used, balanced, bidirectional transmission line standard. RS-485 was specifically developed for industrial applications to transmit and receive data at high rates over long distances.

Specifications

Control System

CPU

= I/O	Slots
-------	-------

Watchdog Timer

Communications

- Command Format
- ASCII command/response protocol, Modbus/RTU Communication RS-485: 1.2 km (4000 feet)
- Distance
- Data Format
- Network Protocols
- Reliability Check
- Max. Nodes
- Speeds (kbps)

Power

•	Power Consumption	3 W @ 24 Vdc (ADAM-5000/485) (not including I/O modules) 4.0 W @ 24 Vdc (ADAM-5000E) (not including I/O modules)
-	Power Input	Unregulated 10 ~ 30 V _{nc}

parity

Software

- Driver Support Windows DLL, OPC Server, Wonderware InTouch, Intellution, iFIX, Citect, Advantech Studio, ADAMView

Protection

- **Communication Line** Isolation Communication Power 3000 V_{DC}
- Isolation
- I/O Module Isolation
 - **Transient Protection**
- Power Reversal

General

•	Certifications	CE, FM
•	Connectors	1 x DB9-M/DB9-F/screw terminal for RS-485 (communication) 1 x DB9-F for RS-232 (configuration) 1 x Screw-terminal for power input
•	Dimensions (WxHxD)	4-slot: 231 x 110 x 75 mm 8-slot: 355 x 110 x 75 mm
•	Enclosure	ABS+PC
•	Mounting	DIN 35 rail, wall, rack (with mounting kit)
E	Environment	

- Humidity

Ordering Information

- ADAM-5000/485 ADAM-5000E
- 4-slot Distributed DA&C System for RS-485 Networks 8-slot Distributed DA&C System for RS-485 Networks
- AD\ANTECH Programmable Automation Controllers & Software Engineering, Inc.-230 Ryan Way, South San Francisco, CA 94080-6370-Main Office: (650) 588-9200-Outside Local Area: (800) 258-9200-www.stevenengineering.com -26 AD Courtesy of Steven Eng

- 2500 V_{DC} (ADAM-5000/485)
- 3000 V_{DC} (ADAM-5000E)
- 3000 Vpc
- - RS-485 communication lines, power input Yes
 - Protection

5~95%, non-condensing

- Operating Temperature -10 ~ 70° C (14 ~ 158° F)
- Storing Temperature -25 ~ 85° C (-13 ~ 185° F)

ADAM-5000/485 ADAM-5000E



Feature Details

Two-wire Communication

ADAM-5000/485 and ADAM-5000E systems use a single twisted pair of wires to transmit and receive data. Special circuitry ensures reliable communications and suppresses line noise on communication lines. This reduces overall network cost by simplifying installation and minimizing the number of cables, connectors, communication repeaters and filters required.

Transient Protection

High-speed transient suppressors protect the system from dangerous voltage surges or power spikes from both the power supply input and the communication ports.

Network Expansion

By using the ADAM-4510 repeater to amplify or boost existing signals, your networks can be stretched beyond 1.2 km.

Each ADAM-4510 repeater enables you to add up to 32 ADAM-5000 units to your network, extending the network by another 4000 feet (1.2 km). Up to 256 ADAM-5000/485, ADAM-5000E units can be connected to a single RS-485 network.

RS-232 to RS-485 Conversion

RS-232 serial ports are standard with most industrial computer systems. Though widely accepted, RS-232 has limited transmission speed, range and networking capabilities. The RS-485 standard overcomes these limitations by using differential voltage lines for data and control signals.

ADAM-4520 is an isolated converter that lets you take advantage of RS-485 on an RS-232 system by converting RS-232 signals to RS-485 signals. Software written for half-duplex RS-232 may also be used without modification. ADAM-4520 helps you build an industrial grade, long distance communication system with standard PC hardware.

Intelligent RS-485 Data Flow Control

The RS-485 communication protocol will support half-duplex communication. Only two wires are needed for transmitting and receiving data. Handshaking signals such as RTS (Request to Send) normally control the direction of the data flow. A special I/O circuit in the ADAM-4510 and ADAM-4520 modules sense the data flow direction and automatically switches the transmission direction, making handshaking signals unnecessary. This makes the RS-485 bus control completely transparent to the user.

Built-in RS-232 Communication

The RS-232 port is used to connect to a host PC for programming, control and monitoring of applications. This aids troubleshooting, and allows a PC to be linked with all the I/O points of the I/O modules.

ADAM ASCII Protocol and Modbus/RTU Protocol

ADAM-5000 commands are in ASCII format. ADAM applications can be written in any high-level language that supports ASCII string functions, such as C, Pascal or VB. ASCII support means you can use virtually any computer to manage your ADAM network. Furthermore, the Modbus/RTU protocol is supported for connecting to 3rd party

controllers.

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ADAM-5013 ADAM-5017 ADAM-5017P

3-ch RTD Input Module

8-ch Analog Input Module

8-ch Analog Input Module with **Independent Input Range**



CF

3

150 dB

 $2 M\Omega$

16-bit

2.3 or 4 wire

PT100 or Ni RTD

1 x Plug-in screw

1.1 W (max.)

±0.1% or better

13.1 Hz @ 50 Hz

15.72 Hz @ 60 Hz

terminal (# 14~22 AWG)

Specifications

General

- Certifications
- Connectors
- Power Consumption

RTD Input

- Accuracy
- Bandwidth
- Channels
- CMR @ 50/60 Hz
- Input Connections
- Input Impedance
- Input Type
- NMR @ 50/60 Hz 100 dB
- Resolution
- **RTD Types and Temperature Ranges** IEC RTD 100 ohms

	Pt	-100° C	to	+100° C	a=0.00385
	Pt	0° C	to	+100° C	a=0.00385
	Pt	0° C	to	+200° C	a=0.00385
	Pt	0° C	to	+600° C	a=0.00385
JIS RTD 100 ohms					
	Pt	-100° C	to	+100° C	a=0.00392
	Pt	0° C	to	+100° C	a=0.00392
	Pt	0° C	to	+200° C	a=0.00392
	Pt	0° C	to	+600° C	a=0.00392
	Ni RTD				
	Ni	-80° C	to	+100° C	
	Ni	0° C	to	+100° C	
	Sampling Rate			10 sam	ples/sec. (total)
	Span Drift			+0.01°	C/° C

- Zero Drift

Protection

Isolation Voltage 3000 V_{DC}

Ordering Information

ADAM-5013

3-ch RTD Input Module

±0.015° C/° C



Specifications

General

- Certifications
- Connectors
- Power Consumption

Analog Input

- Accuracy
- . Bandwidth
- Channels
- CMR @ 50/60 Hz
- Input Impedance .
- Input Type
- Input Range
- Resolution
- Sampling Rate
- Span Drift
- Zero Drift

Protection

- Isolation Voltage
- Fault and Overvoltage Protection up to ±35 V

Note: The voltage difference between any two pins must not exceed ±15 V

Ordering Information



8-ch Analog Input



CF

1 x Plug-in terminal

1.25 W (max.)

or better

or better

block (#14 ~ 22 AWG)

Voltage mode : ±0.1%

Current mode : ±0.2%

configuration channels

Current: 120Ω (Build-in

 120Ω . register for

for Current Input)

mV, V (supports

mΑ

16 bits

10 samples/sec

±25 ppm/° C

±6 µV/° C

 $200 V_{DC}$

uni-polar and bipolar),

0 ~ 150 mV, 0 ~ 500 mV, 0~1V.0~5V.0~10

V, 0 ~ 15 V, ±150 mV,

±500 mV, ±1 V, ±5 V,

±10 V, ±15 V, ±20 mA, 4~20 mA

8 differential and

independent

92 dB min.

Voltage: 20 M

Current Input)

Specifications

General

- Certifications
- Connectors
- Power Consumption

Analog Input

- Accuracy
- Channels

Resolution

- Sampling Rate
- Span Drift
- Zero Drift
- High Common Mode

Protection

- Over Voltage Protection ±60 V_{DC}
- Built-inTVS/ESD Protection

Ordering Information

ADAM-5017P

8-ch Analog Input Module with Independent Input Range

- CE. FM 1 x Plug-in screw terminal (# 14~22 AWG) 1.25 W (max.)
- ±0.1% or better 13.1 Hz @ 50 Hz 15.72 Hz @ 60 Hz 8 differential 92 dB min. Voltage: 2 M Ω Current: 120Ω (Build-in

Current input) mV, V, mA ±150 mV, ±500 mV, ±1 V, ±5 V, ±10 V; ±20 mA 16-bit 10 samples/sec. (total)

±6 µV/° C

 $3000 V_{\text{DC}}$ Withstands overvoltage



120 Ω register for

Module

- ADAM-5017

- CMR @ 50/60 Hz Input Impedance Input Type Input Range

ADAM-5017UH ADAM-5018 ADAM-5018P

8-ch Ultra High Speed Analog Input Module

7-ch Thermocouple Input Module

7-ch Thermocouple Input Module with Independent Input Range

	8 A ADMA 50170H 10 ST 10 ST				1° °	PAC & Software BAS UNO RS-485 I/O
ADAM-5017UH	RoHS COMPLIANT 2002MARC	ADAM-5018		ADAM-5018P		Ethernet I/O
Specificatio	ns	Specifications	5	Specifications	5	6
ieneral		General		General		TPC
Certifications Connectors	CE 1 x Plug-in screw terminal (# 14~22 AWG)	CertificationsConnectors	CE, FM 1 x Plug-in screw	CertificationsConnectors	CE 1 x Plug-in screw terminal (# 14~22 AWG)	7
Power Consumption	2.2 W (max.)	Power Consumption	0.63 W (max.)	 Power Consumption 	0.63 W (max.)	IPPC
Analog Input		•		Thermocouple Input		
Accuracy	±0.1% or better	Thermocouple Input		 Accuracy Bandwidth 	+0.1% or better	EDM
Bandwidth	200 kHz	 Accuracy 	±0.1% or better	Accuracy Danawiath	13.1 Hz @ 50 Hz	
Channels	8 differential	 Bandwidth 	13.1 Hz @ 50 Hz		15.72 Hz @ 60 Hz	I U
GINK @ 50/00 HZ	92 0B (1)(1) ar/_1 I SR		15.72 Hz @ 60 Hz	 Channels 	7 differential with	
Input Impedance	Voltage: 2 M Ω	 Channels 	7 differential		Independent Input	AWS
P	Current: 120 Ω (Build-in	 CMR @ 50/60 Hz 	92 dB min	- CMD @ E0/60 H-	Kange	
	12 Ω . register for	Input Impedance	2 MΩ	 UNIN @ 30/00 NZ Input Impedance 	92 up IIIII	
Integral Non-linear	urrent input) ⊥/-1 I SB	Input Range	±15 mV, ±50 mV, ±100	- mput mpeuance	Ω Register for Current	Plug-in I/O
Input Type	mV. V. mA		mV, ±500 mV,			
Input Range	±10 V, +0 ~ 10 V,		±1 V, ±2.5 V, ±20 mA	Input Range and Types	input)	
	0 ~ 20 mV, +4 ~ 20 mA	Input Type	mV, V, mA,thermocouple	Thermocouple		CompactPCI
 Low pass filter Recolution 	Configured by User	 Resolution 	16-bit	JÖ	~ 760° C	
Sampling Rate	12-DIL	Sampling Rate	10 samples/sec. (total)	K 0	~ 1370° C	
Depends on base unit		 Span Drift 	±25 PPM/° C	T -100	~ 400° C	Cignal Conditioning
ADAM-5000/485 & 5000	DE: 100 Samples/sec max	 Zero Drift 	+6 IIV/ ° C	E 0	~ 1000° C	Signal Conditioning
	(Iotal): one ADAM-	 T/C Type and Temperate 	ure Ranne	R 200 S 500	~ 1/50° C	
ADAM-5000/TCP	100 Samples/sec max		760° C	B 500	~ 1750 C	
ABAM 6000, 101.	(Total) :one ADAM-	K 0° ~	1370° C	Current mode	+20 mA 4~20mA	USB I/O
	5017ÚH installed	T -100° ~	400° C	 Voltage 	+15 mV +50 mV	
ADAM-5510 :	200K Samples/sec max	E 0° ~	1000° C	Fontago	±100 mV. ±500 mV	
	one ADAM-5017UH	R 500° ~	1750° C		±1 V, ±2.5 V	Motion Control I/O
	installed	S 500° ~	1750° C	 Resolution 	16-bit	Would Control 1/0
ADAM-5550 :	1K Samples/sec per	B 500° ~	1800° C	 Sampling Rate 	10 samples/sec. (total)	
	channel: one ADAM-			 Span Drift 	±25 PPM/°C	
*Doponding on the parto	50170H INStalled	Protection		 Zero Drift 	±6 μV/°C	Ethernet Switch
controller		Fault and Overvoltage	Withstands overvoltage	 High Common Mode 	2000 V _{dc}	
Signal Input Bandwid	th 200 kHz for both voltage	Protection	up to ±35 V	Protection		
•	and current inputs	Isolation Voltage	3.000 Vpc			EDG
Protoction			-,	 Fault and Overvoltage 	Withstands over voltage	
	0000.1/	Ordoning Info	rmation	Fruitculun	up l0 ±35 V 3 000 V.	
Isolation Voltage	3000 V _{DC}	vruering into		 isolation voitage Filter function 	J,UUU VDC Yes	
) The voltage difference b	between any two pins must not	ADAM-5018	7-ch Thermocouple	 Built-in TVS/ESD Protect 	ction	ICUM
xceed 15 V ?) Distinct ranne settings all	owed on each channel		πιραι Ινισααισ			
.,				vraering into	ormation	
Ordoring In	formation			ADAM-5018P	7-chThermocouple	
and in the second se					Input Module with	
ADAM-5017UH	8-ch Ultra High Speed				Independent Input	

- Analog Input Module

Range

Courtesy of Steven Engineering, Inc.-230 Ryan Way, South San Francisco, CA 94080-6370-Main Office: (650) 588-9200-Outside Local Area: (800) 258-9200-www.stevenengineering.com

E

ADAM-5024 **ADAM-5050** ADAM-5051/5051D

4-ch Analog Output Module

16-ch Universal Digital I/O Module

16-ch Digital Input Modules



CE, FM

1 x Plug-in screw

±0.1% of FSR for

±0.2% of FSR for

current output

2.9 W (max.)

terminal (# 14~22 AWG)

Specifications

General

- Certifications
- Connectors
- Power Consumption

Analog Output

- Accuracy
- Channels
- **Current Load Resistor**
- Output Type
- Output Range
- Programmable **Output Slope**
- Resolution
- Resolution
- Span Temperature Coefficient
- Zero Drift

Protection

Isolation Voltage

Ordering Information

ADAM-5024

4-ch Analog Output Module

3,000 V_{DC}



Specifications

General

- Certifications
- Connectors
- Power Consumption

Digital I/O

- Digital Input

Power Dissipation

Ordering Information

ADAM-5050



Specifications

General

- Certifications
- FM (ADAM-5051 only) Connectors 1 x Plug-in screw terminal (# 14~22 AWG)

CF

(max.)

(max.)

16

 $30 \ V_{\text{max}}$

CE

RoHS

On: Input logic level 1

Input floating Off: Input logic level 0

ADAM-5051: 0.53 W

ADAM-5051D: 0.84 W

Pull-up current: 0.5 mA

Logic level 0: 1 V max.

(Source Type)

- LED Indicators: (ADAM-5051D)
- Power Consumption

Dry Contact: Logic level 0: close to GND Logic level 1: open Wet Contact: Logic level 0: 2 V max. Logic level 1: 4 ~ 30 V Open collector to 30 V, 100 mA and 450 mW max. load 300 mW for each

16-ch Universal Digital

Digital Input

- Circuit Type
- Channels
- Input Voltage
- Logic Level

Ordering Information

- ADAM-5051
- ADAM-5051D
- 16-ch Digital Input Module with LED

2-30 ADV Courtesy of Steven Engl

- voltage output 4 $0 \sim 500 \Omega$ (source) mA, V 0 ~ 20 mA, 4 ~ 20 mA, 0~10 V 0.125 ~ 128.0 mA/sec. 0.0625 ~ 64.0 V/sec. 12-bit ±0.015% of FSR ±25 PPM/° C Voltage: ±30 µV/ ° C
- Current: ±0.2 µV/ ° C
- Digital Output
- Channel I/O Type
- Channels
- 16 Bit-wise selectable by DIP switch

CE, FM

1 x Plug-in screw

1.2 W (max.)

terminal (# 14~22 AWG)

channel

Input/Output Module

Logic level 1: 3.5 ~ 30 V 16-ch Digital Input Module



ADAM-5051S **ADAM-5052 ADAM-5055S**

16-ch Isolated Digital Input Module w/LED

8-ch Isolated Digital Input Module w/LED

16-ch Isolated Digital I/O Module w/LED



CF

16

50 V_{max}

2500 V_{DC}

1 x Plug-in screw

On: Active

Off: Inactive

0.8 W (max.)

terminal (# 14~28 AWG)

Logic level 0: 3 V max.

Logic level 1: 10 ~ 50 V

Specifications

General

- Certifications
- Connectors
- LED Indicators
- Power Consumption

Digital Input

- Channels
- Input Voltage
- Logic Level

Protection

- Optical Isolation
- Overvoltage Protection 70 V_{DC}

Ordering Information

ADAM-5051S

16-ch Isolated Digital Input Module w/LED



CE. FM

8

5000 V_{BMS}

8-ch Isolated Digital

Input Module w/LED

1 x Plug-in screw

0.27 W (max.)

terminal (# 14~22 AWG)

Specifications

General

- Certifications
- Connectors
- Power Consumption

Digital Input

Protection

Isolation Voltage

Ordering Information

ADAM-5052



CE

16

GND

1 x Plug-in screw

On: Active

8 DO. 8 DI

Dry contact:

Wet contact:

200 mA max. load

Total : 2.2 W

(8 channels)

Off: Inactive

0.68 W (max.)

Specifications

General

- Certifications
- Connectors
- LED Indicators
- Power Consumption

Digital I/O

- Channels
- Channel I/O Type
- Logic Level (DI)

- Digital Output
- Power Dissipation
- Protection
- Isolation Voltage 2500 V_{DC}
- Overvoltage Protection 70 V_{DC} (DI only)

Ordering Information

ADAM-5055S

16-ch Isolated Digital I/O Module w/LED

PAC & Software CE terminal (# 14~28 AWG) Logic level 0: open Logic level 1: close to Logic level 0: 3 V max. Logic level 1: 10 ~ 50 V Open collector to 40 V Channel : 1 W max.

AD\ANTECH

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 Channels Input Resistance Logic Level

- 3 kΩ/0.5 W Logic level 0: 1 V_{max} Logic level 1: 3.5 ~ 30 V

ADAM-5056/5056D **ADAM-5056S ADAM-5056SO**

16-ch Digital Output Modules 16-ch Sink/Source Type Isolated **Digital Output Module w/LED 16-ch Source type Isolated Digital Output Module w/LED**



CF

"1"

"0"

16

30 Vmax

FM (ADAM-5056 only)

terminal (# 14~22 AWG)

Off: output logic level

ADAM-5056:0.53 W

Open collector to 30 V,

100 mA max. load

300 mW for each channel

1 x Plug-in screw

Specifications

General

- Certifications
- Connectors
- LED Indicators: (ADAM-5056D) On: output logic level

Power Consumption

(max.) ADAM-5056D: 0.84 W (max.)

Digital Output

- Channels
- Digital Output
- Operating Voltage
- Power Dissipation

Ordering Information

- ADAM-5056
- ADAM-5056D
- 16-ch Digital Output Module 16-ch Digital Output Module w/LED



CE

16

1 x Plug-in screw

On: active

Off: inactive

0.6 W (max.)

200 mA max.

load (sink)

terminal (# 14~28 AWG)

Open collector to 40 V.

Specifications

General

- Certifications
- Connectors
- LED Indicator
- Power Consumption

Digital Output

- Channels
- Digital Output .
- Power Dissipation

Protection

- 2500 V_{DC} Optical Isolation
- Overvoltage Protection $70 V_{DC}$
- Power Dissipation 300 mW

Ordering Information

- ADAM-5056S
- 16-ch Sink Type Isolated Digital Output Module w/LED



CE

16

(source)

Total : 2.2 W

(8 channels)

2500 V_{DC}

1 x Plug-in screw

On: active

Off: inactive

0.6 W (Max.)

terminal (# 14~28 AWG)

Open collector to 40 V.

200 mA max. load

Channel : 1 W max.

Specifications

General

- Certifications
- Connectors
- LED Indicator
- Power Consumption

Digital Output

- Channels
- Digital Output
- Power Dissipation

Protection

- Optical Isolation
- Overvoltage Protection 70 V_{DC}

Ordering Information

- ADAM-5056SO
- 16-ch Source Type Isolated Digital Output Module w/LED

Programmable Automation Controllers & Software 230 Ryan Way, South San Francisco, CA 94080-6370-Main Office: (650) 588-9200-Outside Local Area: (800) 258-9200-www.stevenengineering.com 2-32 AD Courtesy of Steven Eng AD\ANTECH

300 mW for each channel

ADAM-5060 ADAM-5068 ADAM-5069

6-ch Relay Output Module

8-ch Relay Output Module

8-ch Power Relay Output Module w/LED



CE

Specifications

General

- Certifications
- Connectors
- Power Consumption

Relay Output

- Breakdown Voltage
- Channels
- Contact Rating
- 500 V_{AC} (50/60 Hz) 2 x form A, 4 x form C AC: 125 V @ 0.6 A 250 V @ 0.3 A DC: 30 V @ 2 A 110 V @ 0.6 A • Insulation Resistance 1 G Ω min. @ 500 V_{nc}

FM (ADAM-5060 only)

terminal (# 14~22 AWG)

1 x Plug-in screw

1.8 W (max.)

- Relay Off Time (typical) 2 ms
- Relay On Time (typical) 3 ms
- Total Switching Time 10 ms

Ordering Information

ADAM-5060

6-ch Relay Output Module



Specifications

General

- Certifications
- Connectors
- Power Consumption

Relay Output

- Breakdown Voltage
- Channels .
- **Contact Rating**

Insulation Resistance

- . Relay Off Time (typical) 3 ms
- Relay On Time (typical) 7 ms
- Total Switching Time 10 ms

Ordering Information

ADAM-5068

8-ch Relay Output Module





CE, FCC class A

1 x Plug-in screw

On: Active

Off: Non-active

750 V_{AC} (50/60 Hz)

AC: 250 V @ 5 A

DC: 30 V @ 5 A

 $1 \, G\Omega @ 500 \, V_{pc}$

2.2 W (max.)

8 x form A

5 ms

5.6 ms

terminal (# 14~22 AWG)

Specifications

ADAM-5069

- General
- Certifications
- Connectors
- LED Indicator
- Power Consumption

Relay Output

- Breakdown Voltage
- Channels
- Contact Rating
- Insulation Resistance
- Relay On Time
- Relay Off Time

Ordering Information

ADAM-5069

8-ch Power Relay Output Module w/LED

Online Download www.advantech.com/products



AD\ANTECH

1-33 venengineering.com

8 x form A AC: 120 V @ 0.5 A DC: 30 V @ 1 A $1 \, \mathrm{G}\Omega$ min. @ 500 V_{DC}

CE

FM (ADAM-5060 only)

terminal (# 14~22 AWG)

1 x Plug-in screw

500 V_{AC} (50/60 Hz)

1.8 W (max.)

ADAM-5080 ADAM-5081 ADAM-5090

4-ch Counter/Frequency Module

4-ch High Speed Counter/Frequency Module

4-port RS-232 Module



Specifications

General

•	Certifications	CE, FM
•	Connectors	1 x Plug-in screw
		terminal (# 14~22 AWG)
•	Power Consumption	1.5 W (max.)
C	ounter/Frequency	
	Counter Aux. Function	Initial preset, hi-low
		alarm setting, alarm
		digital output mapping,
	Channala	overnag
2	Undimens	4 0.2 1000 Uz may
1	піриї гіециенсу	(frequency mode)
		5000 Hz max. (counter
		mode) TTL only
•	Input Level	Isolated or TTL level
•	Isolation Input Level	Logic level 0: 1 V _{max}
_	lealation Valtana	LOGIC IEVEL 1: 3.5 ~ 30 V
1	Isolation voltage	IUUU V _{RMS}
•	Maximum Count	4, 294, 967, 295
_		(32 DIIS)
2	Minimum Innut Current	2 mA (isolated)
-	Minimum Pulse Width	500 ms (frequency
-		mode)
		100 ms (counter mode)
•	Modes	Counter (up/down,
		bi-direction) frequency
•	Programmable Digital F	ilter
		1 ~ 65000 µsec
		(Noise Filter function)
	I I L Input Level	Logic level U: 0 ~ 0.8 V

Ordering Information

ADAM-5080

4-ch Counter/Frequency Module



CE

4

1.1 W (Max.)

Indicator

mode)

to 30 Vdc

0.8Vdc,

Power/Communication

4,294,967,295 (32 bit)

5 Hz ~ 1 MHz max.

(frequency mode) 1 MHz max. (counter

Isolated or TTL level

Logic level 0: 0 Vdc to

Specifications

General

- Certifications
- Power Consumption
- LED
- . Channels
- Maximum Count . Input Frequency
- Input Level
- Minimum Pulse Width
- Minimum Input Current 2 mA (isolated) .
- **Isolation Input Level** Logic level 0: +3 Vdc (max), Logic level 1: +10 Vdc
- TTL Input Level
- Isolation voltage
- Modes
- Counter Aux. Function
- alarm setting, alarm digital output mapping,
- overflag
 - - (Noise Filter Function)

Initial preset, hi-low

Ordering Information

ADAM-5081



Specifications

General

- Certifications CE Connectors 4 x RJ-45 LED Indicators TX, RX (each port) Power Consumption 0.6 W (max.) **Communications** 5, 6, 7, 8
- Data Bits Data Signals
- Parity
- Ports
- UARTs
- 1µsec. (frequency mode) 1µsec. (counter mode)
 - Speed
 - Stop Bits
 - Note: For ADAM-5510 Series, ADAM-5510KW Series, and ADAM-5511 only

Ordering Information

- ADAM-5090
- 4-port RS-232 Module

TxD, RxD, RTS, TS, DTR, DSR, DCD, RI

none, even, old

(128-byte FIFO)

50 ~ 115.2 kbps

1 x 16C954

1, 1.5, 2

GND

4

4-ch High Speed Counter/Frequency Module

- .ogic level u: I Logic level 1: 2.3 ~ 5 V
 - Programmable Digital Filter

1 ~ 65000 µsec

Logic level 1: 2.3 Vdc to 5 Vdc 2500 V_{BMS} Counter (up/down. bi-direction, up, A/B Phase), Frequency

ADAM-5202 ADAM-5240 ADAM-5030

2-ring AMONet Master Module 4-axis Stepping/Pulse-type Servo **Motor Control Module**

2-slot SD Storage Module



CE

RJ-45

control

cable

10 kW

2

0.5 W (Max.)

Active, Error (Each Port)

2.5, 5, 10 or 20 Mbps

with automatic data flow

Half duplex RS-485 with

CAT5 UTP/STP Ethernet

transformer isolation

Max. 100 m (20

Mbps/32 slave

modules) or 50 m

(20 Mbps/64 slave

modules) Distance

2 Rings with Max. 128

(1 Ring with 64 slaves)

2-ring AMONet Master

Module

Specifications

General

- Certifications
- Power Consumption
- Connectors
- LED Indictors
- Number of Rings
- Transmission Speed
- Serial Interface
- Cable Type
- Surge Protection
- Communication
- Communication Slave
- Module Number
- Operating Temperature 0 ~ 50° C (32 ~ 140° F)

Ordering Information

ADAM-5202

NEW ADAM-5240 CE

CF

4 Axis

DC +12 ~ 24Vdc

Interpolation

1PPS ~ 4MPPS

1PPS ~ 2MPPS

1PPS ~ 4MPPS

1- direction type)

Deceleration

Pulse /Direction (1-pulse,

Up/Down (2-pulse type)

T/S-curve Acceleration/

Up/Down) X1, X2 ,X4 (A/B phase only)

1000 Vdc isolation

nEXOP + and nEXOP

5 V ~ 30 V

1.1 W (Max.) 100-pin SCSI-II 0 ~ 60° C (32 ~ 140° F)

5 ~ 95 % RH non-condensing (refer to IEC 68-2-3)

2/3-axis Linear Interpolation/2-axis Circular

±2, 147, 483. 646 for each axis

Specifications

General

- Certifications Power Consumption
- Connectors Operating Temperature Relative Humidity

Motion

- Number of Axis External Power input
- Range
- Speed

Continuous Interpolation

- Speed
- **Drive Output Pulses**
- Range Pulse Output Type
- Speed Curve

Input Pulse for Encoder Interface Quadrature (A/B phase or

- Encoder Pulse Input Type
- Counts per Encoder Cycle Protection
- Input Range

External Signals Driving

- Input Signal Max Input Frequency Protection

External Deceleration/Instantaneous Stop Signal

1000 Vdc Photo coupler

- isolation
- **Input Pulse for Servo Motor Drives** Input Signal
 - nALArm (servo alarm) nINPOS (position command completed)

EMG – one emergency stop input for ADAM-5240

1000 Vdc Photo coupler

n0UT4 ~ 7

General Purpose Output Signal

- Ouput Signal
- **Emergency Stop**
- Input Signal
- Protection
 - isolation and RC filtering

Ordering Information ADAM-5240



CE

2

0.5 W (Max)

USB Rev 2.0

(Compilant)

Specifications

General

- Certification
- Power Consumption
- Storage Type
- Storage Number
- USB Type
- USB Number 2
- Operating Temperature 0 ~ 60° C (32 ~ 140° F)

Ordering Information

ADAM-5030

2-slot SD Storage Module

SD (Secure Digital Card)

PAC & Software

4-axis Stepping/Pulse Servo Motor Control Module

AD\ANTECH

ECH 1-35 .stevenengineering.com

100Hz 1000 Vdc Photo coupler isolation Input Signal

Max Input Frequency

Protection

nIN1 ~3 4 kHz

DiagAnywhere

Remote Maintenance Software

Features

- Remote Monitor Function
- Remote Control Function
- Remote Screen Snapshot
- Remote Screen Recording
- File Transfer Function
- Windows-based Authentication
- Favorite Devices Grouping Function

Introduction

The "DiagAnywhere", an abbreviation of "Diagnose Anywhere", is remote maintenance software for remotely monitoring and controlling Advantech TPC, UNO and ADAM devices with Windows-based operating systems. Currently, the DiagAnywhere includes the utility on client side and the server on the target devices. The supported platforms include Windows XP, Windows XP Embedded, Windows CE.NET 4.2, and Windows CE 5.0. This useful software can help users to achieve major remote maintenance tasks including remote monitoring and control, remote screen snapshot and recording, file upload and download. Windows-based authentication is also supported for security concern.

Remote Monitoring and Control

DiagAnywhere can monitor up to 16 target devices simultaneously. The total refresh rate of the screens can be optimized manually. The other supported functions including remote control function can be operated under only one target device is selected.

Remote Screen Snapshot and Recording

The remote screen snapshot function and remote screen recording function can be utilized for recording the important screen snapshots so the major symptoms of the target device can be analyzed efficiently. These functions are very helpful to the communication between field operators and technical support engineers when they need to investigate the problem remotely.

File Upload and Download

Remote maintenance always needs the functions of uploading files to and downloading files from target devices. DiagAnywhere adopts popular user interfaces of FTP client so users can operate the upload and download function easily.

Windows Based Authentication

DiagAnywhere adopts Windows-based authentication which comes with Windows operating system. Only the account of administrator can logon to the target devices. For security consideration, the server can accept only one connection from the client utility at a time and other connection will be rejected if there is a connection alive.

Favorite Devices Grouping Function

The selected target devices can be grouped under favorite groups. This function can help users to organize the device groups and save the maintenance time.

Monitoring 16 Target Devices



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Remote Screen Recording



Devices Grouping





Windows-based Authentication



System Requirements

CPU	Intel Pentium processor 200 MHz or higher
RAM	64 MB memory (Minimum)
Disk Space	5 MB (Minimum)
Display	VGA resolution or higher
0S	Microsoft Windows 98, SE, Windows 4.0 (SP6 above)

- Windows 2000/XP Win32 platform Microsoft .NET Framework installed
- WinCE platform Microsoft .NET Compact Framework installed

Ordering Information

PCLS-DIAGAW32 DiagAnywhere Remote Maintenance Software





Remote Screen Snapshot

File Transfer



ADAMView

Data Acquisition Software



Features

- Complete software package
- Graphic panel configuration
- Modularized and prioritized task design
- BasicScript scripting language to customize your applications
- Easy connection with ADAM I/O series

Introduction

We have noticed that many users apply the ADAM Data Acquisition modules in small base projects. Because the cost ran higher than system hardware, Human Machine Interface software were never suitable for these projects. ADAMView, the ADAM Data Acquisition software, is especially designed for low-volume ADAM projects. It provides a 150 physical points database, ADAM Drivers, for all monitoring and control functions. In brief, ADAMView is a cost-effective and simple SCADA software for the ADAM I/O series.

Specifications

System Requirements

- CPU
- RAM
 - AM 64 MB Minimum isk Space 20 MB Minimum
- Disk Space 20 MB M
- Display VGA Resolution or Higher
- Microsoft Compatible Mouse
 OS Micros
 - Microsoft[®] Windows[®] 98, Windows NT 4.0 SP4 or above, Windows 2000, Window XP

Intel[®] Pentium[®] 200 MHz or higher

Supported Hardware

ADAM-4000/5000 Series Modules: Link through DLL Driver (Device Manager)

Feature Details

Complete Software Package

ADAMView takes advantage of Microsoft's Windows graphical interface, offering fast and intuitive configuration for human-machine interface and data acquisition applications. This application software combines easy-to-use graphical development and the flexibility of BasicScript, a powerful programming tool. With ADAMView, you can easily design both simple and complex applications, such as factory processes and utility monitoring, Lab testing, or environmental monitoring.

Graphical Panel Configuration

ADAMView provides a wide variety of graphical wizards, allowing users to quickly create an intuitive operator interface. Built-in display objects include bar graph, button, indicator, real time/historical trending, knob, gauge, slider, imported bitmap, numeric display and control.

Modularized and Prioritized Task Design

ADAMView development environment allows you to decompose your system into several smaller modules or tasks. The modular design is very useful to develop, and facilitate large and complicated system maintenance. Each module or task has its own properties, such as scan rate, start/stop method, and priority etc. With 32-bit Windows' multi-tasking capability, all tasks run simultaneously. Moreover, ADAMView software allows you to prioritize your tasks to increase overall performance.

BasicScript Scripting Language to Customize Your Applications

ADAMView is easy to use. It fully integrates BasicScript language in its kernel to meet your specific needs. Over 600 commands are available to perform almost any function you can imagine, including calculations, reading and writing files, DDE, and ODBC. It allows you to access and share data with other applications, such as Microsoft Access and Microsoft Excel. With BasicScript scripting language, you can reuse existing code and build your applications faster and easier.

Easy Connection with ADAM I/O Series

Once you install ADAMView software, you can immediately connect with ADAM-4000/5000 I/O as a complete Data Acquisition System. Current ADAM users can apply direct driver to access all ADAM-4000 modules and ADAM-5000/485 I/O system.

Ordering Information

PCLS-ADAMVIEW32 ADAMView Data Acquisition Software

Online Download www.advantech.com/products Courtesy of Steven Engineering, Inc.-230 Ryan Way, South San Francisco, CA 94080-6370-Main Office: (650) 588-9200-Outside Local Area: (800)



PWR-242 **PWR-**243 **PWR-**244



1.2 A max.

20 A/110 V_{AC}

40 A/220 V_{AC}

47 ~ 63 Hz

2.1 A max.

CE, UL

+24 V_{pc} ±10%

Screw-terminal

Sheet metal

85,000 hrs

range

 $90 \sim 264 V_{\text{AC}}$ wide input

Specifications

Input

- Input Current
- Inrush Current (cold)
- Input Frequency
- Input Voltage
- Short Protection

Output

- Output Current
- Output Voltage
- Overload Protection

General

- Certifications
- Connectors
- Dimensions (L x W x H) 181 x 113 x 60 mm (7.01" x 4.43" x 2.35")
- Enclosure
- MTBF
- Operating Temperature 0 ~ 50° C
 - (32 ~ 122° F)

Ordering Information

- PWR-242
- DIN-rail Power Supply





Specifications

Input

- Input Current
- Inrush Current (cold)
- Input Frequency
- Input Voltage
- Short Protection

Output

- Output Current
- Output Voltage
- Overload Protection

General

•

- Certifications
 - Connectors Scr
- Dimensions (L x W x H) 128 x 97 x 40 mm (5" x 3.8" x 1.6")
- Enclosure
- MTBF
- Operating Temperature: 0 ~ 50° C (32 - 122° F)

Ordering Information

PWR-243



DIN-rail Power Supply

Panel Mount Power Supply

Panel Mount Power Supply



Specifications

Input

Output

- Output Current
- Output Voltage
- Overload Protection

General

- Certifications CE, UL
 Connectors Screw-terminal
- Dimensions (L x W x H) 198 x 99 x 35 mm
 - (7.80" x 3.90" x 1.38") Sheet metal
- Enclosure
- MTBF 70,000 hrs
- Operating Temperature $0 \sim 50^{\circ}$ C $(32 \sim 122^{\circ}$ F)

Ordering Information

- PWR-244
- Panel Mount Power Supply

42A max

 $+24 V_{\text{DC}} \pm 10\%$





 Programmable Automation Controllers & Software

 Inc.-230 Ryan Way, South San Francisco, CA 94080-6370-Main Office: (650) 588-9200-Outside Local Area: (800) 258-9200-www.stevenengineering.com

CE, UL Screw-terminal 128 x 97 x 40 m (5" x 3.8" x 1.6" Sheet metal

Panel Mount Power

Supply

1.4 A max.

20 A/110 V_{AC}

40 A/220 V_{AC}

 $85 \sim 132 V_{AC}$ or

170 ~ 264 V_{AC},

(switchable)

3 A max.

+24 V_{DC} ±10%

47 ~ 63 Hz

Sheet metal 78,000 hrs **mperature**: 0 ~ 50° C